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THE BRICKBVILDER

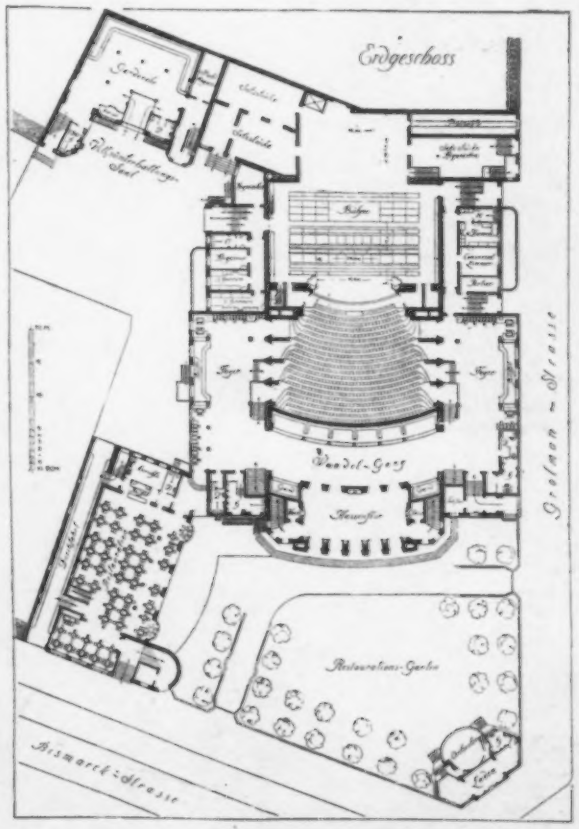
VOL. 17 NO. 2 — DEVOTED TO THE INTERESTS OF ARCHITECTVRE IN MATERIALS OF CLAY — FEBRUARY 1908

The American Theater—III.

FOYERS AND ANTEROOMS.

BY CLARENCE H. BLACKALL.

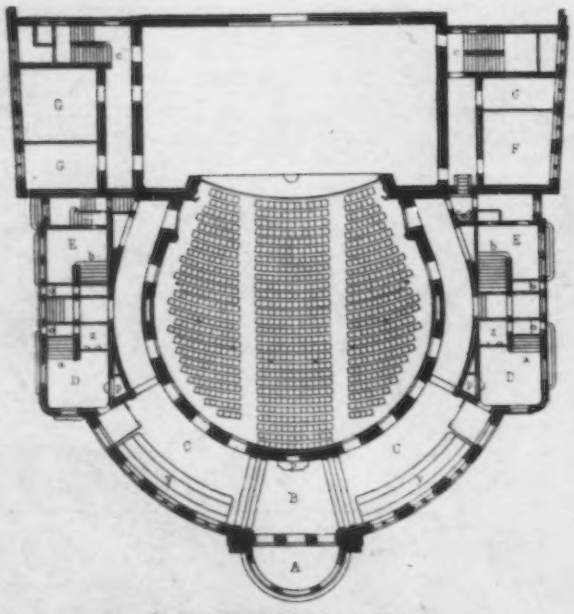
THE weak points in the American theater, the features which are generally bad in plan, illogical in arrangement and slovenly in treatment, and which are always markedly inferior to what is found in the best work abroad are the foyers and approaches. From the manager's standpoint, any floor space in the front of the house not actually earning money is a waste of good opportunity, and it is doubtful if any theater promoter would ever surrender for foyers and lobbies a single square foot more than the law's minimum demand. Consequently, the good-natured American public submits to being crowded through insufficient doorways, and down narrow stairways, so that the theater can earn more money on a lesser first cost. We simply do not know what really ample exits mean. Two typical theaters from Europe will illustrate by contrast what we have not. The Schiller Theater at Charlottenburg, Berlin, gives nearly twice as much space to foyers, approaches and stairs as is given to the entire auditorium. In the Raimnnd Theater, Vienna, the approaches are greater than the hall. In this country it is seldom that the approaches equal in aggregate fifty per cent of the area of the hall. But even aside from the scanty proportions of the foyers and other rooms in front of the house, only rarely do we make the best use of the spaces the laws compel the owners to allow. Commercialism again steps in and dexterity rather than skill is displayed in complying with the legal requirements. And the building laws are not at all uniform. Boston prescribes that each division of the house, that is to say, the orchestra, balcony and gallery, shall be preceded by a lobby or foyer of sufficient size to accommodate, standing, all the persons for whom seating capacity is arranged in each respective section. No other city has so exacting a requirement as this in regard to lobbies, and it has made theater building in Boston unnecessarily expensive and wasteful of space, without a real gain in either safety or accommodation. New York requires no lobby at all. In a number of the most recent theaters built in that city, the only lobby space is that in front of the ticket office and the standing-up space behind the orchestra seats. In the New Amsterdam Theater this space is separated from the house only by a species of glazed partition, with movable sash. In the Stuyvesant and the Majestic theaters, the separation is by a glazed screen stopping several feet short of the ceiling. If we are to assume there is no real need for a lobby in the European sense, then it becomes simply a question of safety in case of panic or fire; and when the standing-room opens directly on the street, as in the Stuyvesant, the New York plan is really safer than the Boston plan, as shown by the Colonial. On the other hand, the New York theaters are rarely provided with any foyer for balcony or gallery, and the stairs are carried up in open corners in such manner that no real separation is possible between the different levels.



SCHILLER THEATER, CHARLOTTENBURG.

The Brooklyn Academy of Music is a remarkable exception, in that the plan shows a monumental treatment of the approaches. The building includes a large concert hall as well as a theater, and the large foyer on

the ground floor serves for both halls, while the ball room, on level of first balcony, can also be used as a foyer. In this building a bank of elevators is an important feature, and the stairs and exits have been worked out by the architects in a most able manner. This theater was not built by any theatrical syndicate nor as a mere investment, and its approaches could therefore be planned in a more generous manner and with more thought for the public than is usually considered practicable.



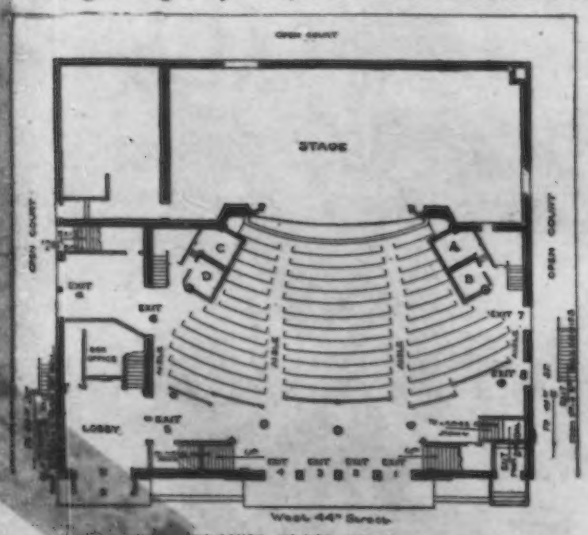
RAIMUND THEATER, VIENNA.

A. Main Entrance.
B. Main Vestibule.
C. Hall.
D. Lobby, 1st Tier.
E. Lobby, 2d Tier.
F. Green Room.
G. Stores.
a. 1st Tier Stairs.
b. 2d Tier Stairs.
c. Service Stairs.
p. Box Office.
w. Bar.
y. Cloak Room.
z. Lavatory.

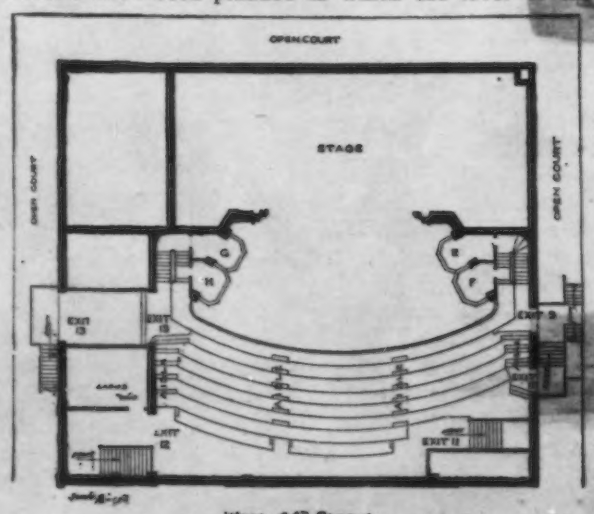
A foyer on the ground floor is in a sense a spectacular necessity. The average American audience does not go out, to any extent, between the acts, but it has come to be considered the proper scheme to elaborate the decoration and the arrangement of the main foyer, and to give it a festive character, quite aside from that demanded by practical requirements. There is not the same necessity for space and display in connection with the foyers for balcony and gallery, and they could with perfect safety be dispensed with, provided the exits and entrances are properly arranged. The foyer, then, from an architectural standpoint, becomes purely a matter of design. A width of eighteen feet, carried across the entire frontage of the auditorium is a minimum for a first-class theater. It is usually customary to so arrange the stairs and the approaches that all portions of the house, including the gallery, can be reached through the main foyer, so that on special occasions, when high prices are charged for gallery seats, the entire audience can come in through the main entrance, instead of the gallery ticket-holders being obliged to come in through the less prominent gallery entrance. This is accomplished usually by the connection between the main foyer and the gallery entrance itself, and is also accomplished by extending the stairs of balcony up to the gallery, with either barriers or doors so that under ordinary circumstances no one can pass from the gallery to the balcony.

The matter of stairs is a very vital one to any theater. They should never be less than five feet in width, and when more than six feet in width, should have a fixed rail down through the center of each run. The stairs should be in runs of not more than twelve steps and the platforms should all be built with rounded corners, so that in case of panic, no one can be squeezed up into an angle. Requirements as to stair capacity vary greatly. Boston's new law passed last year calls for an aggregate width, for inside stairway, of twenty inches for each one hundred people the theater can seat, besides a minimum of ten inches per one hundred people for the width of outside stairways or fire escapes, and this represents a fair average of what is believed to be good practice. But all stairs should be so arranged that in an emergency, each division of the house can be emptied independently, as far as the street, without interfering with or crossing any exit from another division.

Stairs at the best, however, are objectionable. Some theaters have been planned in which the level of the



GROUND FLOOR PLAN.



FIRST BALCONY PLAN.

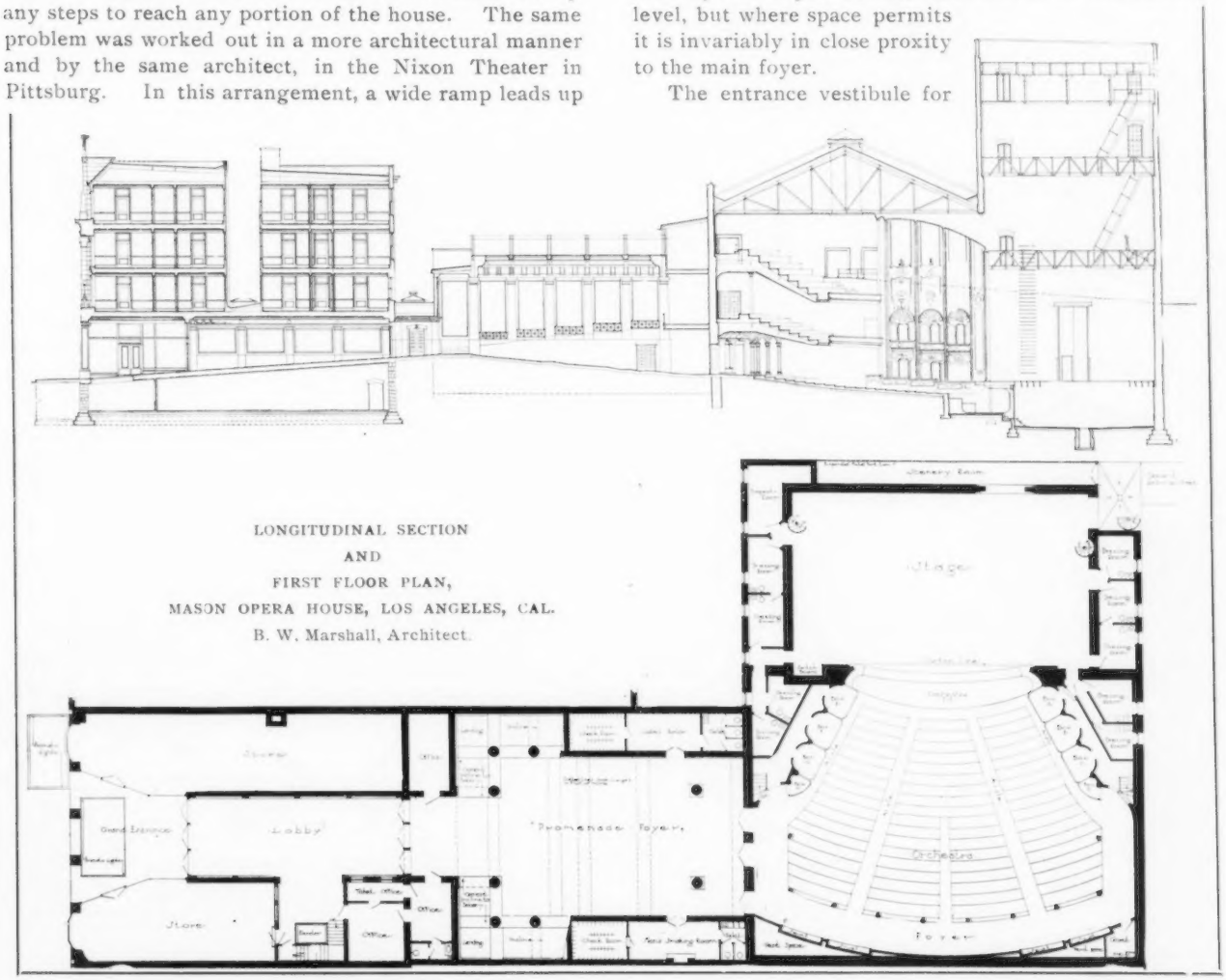
STUYVESANT THEATER, NEW YORK.

main entrance from the street was midway between the level of the balcony and the level of the orchestra, so that the ascent to the balcony required only a slight rise. This has not usually found favor, as the holders of orchestra seats, which are highest in price, object to going down. Several very clever attempts have been made to do away with stairs entirely, substituting therefor inclined ways. In the Los Angeles Opera House the main floor is dropped slightly below the street, but not sufficient to seem like a descent. A broad and easy ramp, of grade nowhere more than one in twelve, leads directly from the main foyer to the balcony. The theater is built on the side of a hill and, consequently, from the upper level there is an opportunity to gain direct access to the upper row of the gallery, from the rear. So that as a matter of fact, no one need walk up any steps to reach any portion of the house. The same problem was worked out in a more architectural manner and by the same architect, in the Nixon Theater in Pittsburg. In this arrangement, a wide ramp leads up from just inside the ticket door to a point on a level with the central tier of the gallery. A broad cross aisle connects the two entrances, and steps lead up and down the sides of the balcony, to reach the upper and lower levels. The grade of the incline is about one in twelve, and in practice it has been found to work very satisfactorily. In this theater stairs are also provided, but the audience uses the ramp quite as much as the stairs.

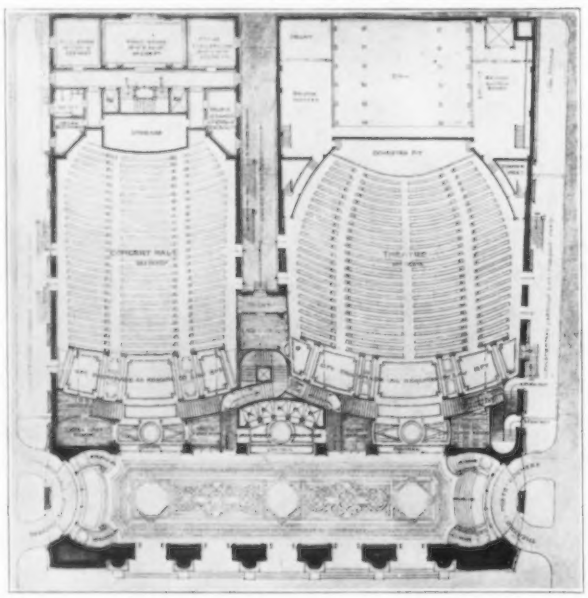
STUYVESANT THEATER, NEW YORK.
George Keister, Architect.

The other requirements in plan for the front of the house include a ladies' room, which is usually made a very ornamental feature of the theater, and elaborately decorated as an advertisement. In close proximity to this there should be an ample coat room not less than ten by fifteen feet, for a first-class theater, and also a ladies' lavatory. Occasionally this ladies' room and lavatory can be put into the basement or on the balcony level, but where space permits it is invariably in close proxity to the main foyer.

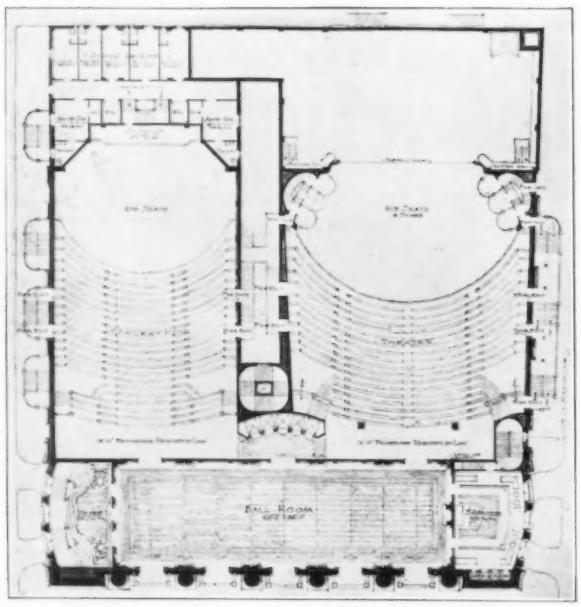
The entrance vestibule for



LONGITUDINAL SECTION
AND
FIRST FLOOR PLAN,
MASON OPERA HOUSE, LOS ANGELES, CAL.
B. W. Marshall, Architect.



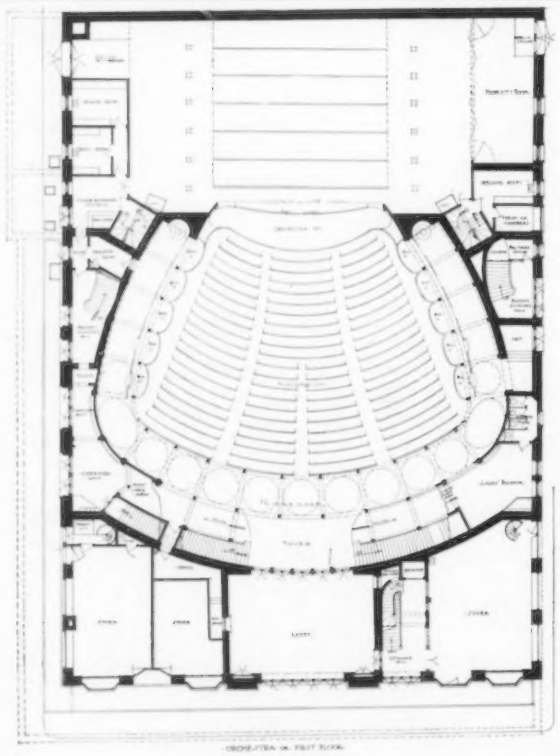
FIRST FLOOR PLAN (TAKEN BELOW STAGE LEVEL).

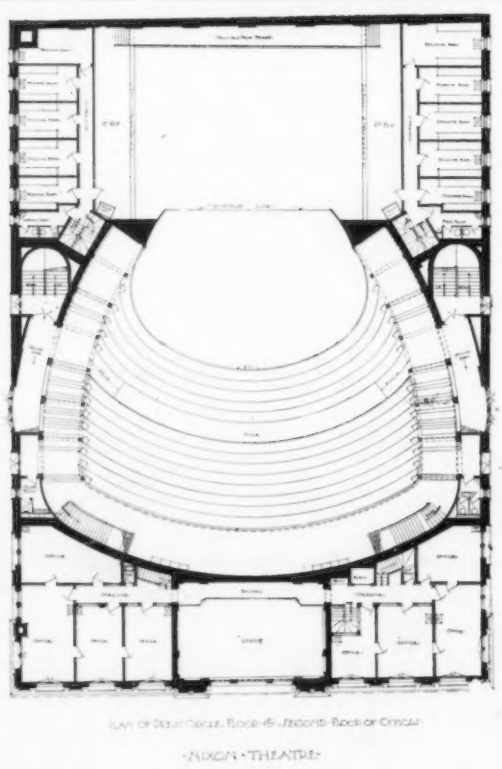


FIRST BALCONY PLAN.

ACADEMY OF MUSIC, BROOKLYN.
Herts & Tallant, Architects.

ordinary theaters should be not less than fifteen feet wide, with ticket office about midway of the length, so as to allow of the formation of a line of ticket purchasers without interfering with entrance and exit. The ticket office is better not too large. Seven feet in width by twelve in length allows of two selling-windows and plenty of space for ticket racks. The usual custom is to arrange the tickets for the day's performance on a swinging-board in which are slots corresponding to the seats of each division of the house, each ticket occupying a slot



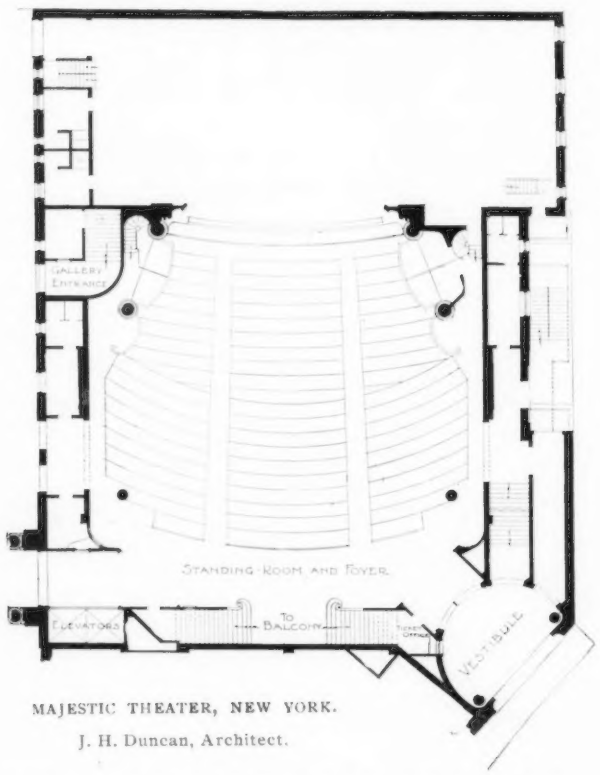


NIXON THEATER, PITTSBURG.
B. W. Marshall, Architect.

by itself so that the ticket seller can tell at a glance what seats are available. Advance sales for future performances are made from racks in which all the tickets of a given row are in a separate compartment by themselves. It is usual to arrange a ticket office so that seats can be sold two weeks in advance, at any time.

There should also be an office for the manager which can be reached from the main vestibule and also from the main foyer. Adjoining this there should be a small counting room in which the tickets can be counted up each night and the records kept of the performance.

The smoking room and lavatory for men are usually placed in the basement. Rarely is there sufficient space on the ground floor to accommodate these. In the base-



MAJESTIC THEATER, NEW YORK.
J. H. Duncan, Architect.

ment is also placed a room for the ushers, and there should be a room for the door-keeper, and a closet containing a large sink fed with hot, cold and ice water, for the use of the water boys.

In arranging the approaches to the theater it is well to provide at least three sets of doors between the outside air and the auditorium. There should be two between the sidewalk and the vestibule. There should be a door between the vestibule and the foyer, at which point the tickets are collected, and there should be doors between the foyer and the orchestra. All these doors should be double swing, except the two outer sets, both of which should open out only, and all the doors should be fitted with checks and door bolts, to hold open.

THE art of building is the strongest, proudest, most enduring, of the arts of man; it is the art which is associated with all civic pride and sacred principle; with which men record their power, satisfy their enthusiasm, make sure their defence, define and make dear their habitation. — *Ruskin.*

The Public Bath.

BY HAROLD WERNER AND AUGUST P. WINDOLPH.

A PROPER appreciation of the fundamental principles underlying the development of the public bath cannot be arrived at without at least a review in outline of its history, and its value and service to the people throughout the ages. The following discussion will include the development of the types of public baths with the various forms of bathing, some suggestions on planning, structural peculiarities, the extent of the facilities afforded, and will indicate in a measure the value, from a sanitary standpoint, to the community.

The earliest records mention the River Baths of the Ganges and Nile as a popular form of recreation and a means for cleanliness. While public bathing was fostered and encouraged by the people of the Peloponnesus, the Romans in their gigantic institutions considerably perfected them, not only from a constructive but from a mechanical point as well. A pure and ample supply of water was always available through the agency of the enormous aqueducts carrying water across the Campagna, in some instances a distance of over fifty miles to the source of supply.

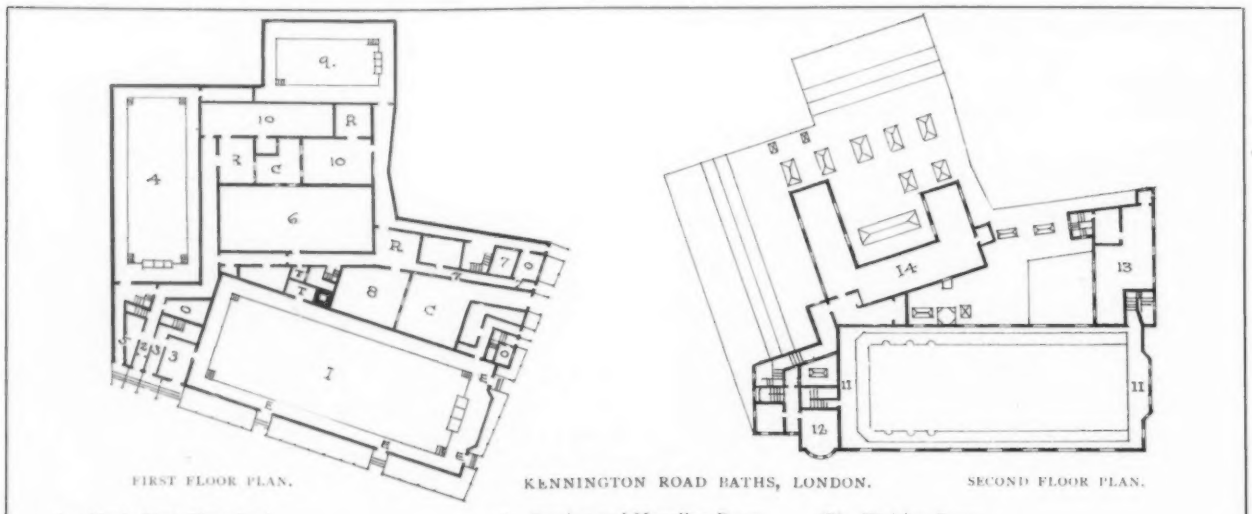
In the third century, B. C., we find a complete bathing establishment near the Circus Maximus in Rome, with approved form of water supply and wastes, with hot water tanks in sets to heat the water to varying degrees of temperature, with a consequent saving of heating units, similar in general principle to those in use to-day, — also provision for ventilation with air ducts to carry off the foul air, and a universal use of marbles, mosaics and other materials to make the interior as sanitary as possible. Only in mechanical devices do we show to-day any improvement.

The sanitation was further improved by the liberal supply of water in the pool baths. In some cases the pools were more than two hundred feet long and contained several hundred thousand gallons of water. The largest interior pool bath (Municipal) in this country is not over one hundred and twenty-five feet in length and contains less than one hundred thousand gallons of water.

The bath was considered not only as a form of exercise but as a means of cure. In the city of Rome there were over eight hundred bathing establishments, the capacity of a single bath house frequently exceeding three thousand persons at one time. We find principles of sanitation carefully followed, medicines and drugs were discarded, and the bath served as a guarantee of the public health.

The larger establishments, constructed under the reigns of Titus, Caracalla and Diocletian, no longer served purely as a means for bathing but as a form of recreation and pleasure. The use of anointing, massage, lounging and other rooms marked the decline, and it appears that the true purpose of the public bath had been forgotten. The bath had become simply an institution to pander to the luxurious tastes of a decadent people, and for several centuries there was a period of inaction until the fifth century when the people of the peninsula, realizing that the bath in order to accomplish its purpose must serve merely as a place for bathing

developed a simpler type of building, discarding many of the unnecessary features of the Diocletian type. The buildings in operation during the Middle Ages were mostly of a private nature devoted to medicinal purposes. It was not until the latter part of the eighteenth



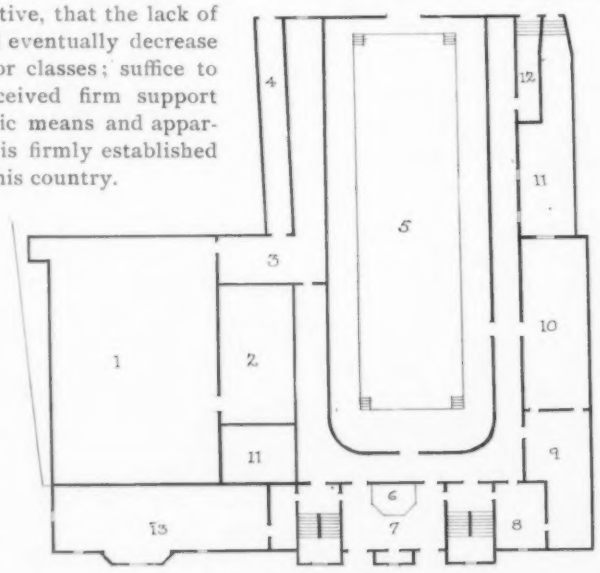
KENNINGTON ROAD BATHS, LONDON.

1. Men's First-Class Pool.
2. Entrance to Men's First-Class Pool Bath.
3. Entrance and Office for Entertainments.
4. Men's Second-Class Pool Bath.
5. Men's Entrance and Office, Second-Class Pool.
6. Laundry.
7. Office and Entrance to Laundry.
8. Ironing and Mangling Room.
9. Women's Pool Bath.
10. Women's Tub Baths.
(O) Offices.
(E) Emergency Exits.
(T) Toilets.
(C) Courts.
(R) Waiting Room.
11. Spectators' Balcony.
12. Board Room.
13. Women's Second-Class Tubs and Waiting Room.
14. Men's Second-Class Tubs and Waiting Rooms.

century that a revival occurred in public bath building, — the stern demands of modern civilization caused its value to be again recognized. It matters not whether this was due to altruism, or a sudden awakening to the lamentable conditions of the masses, or, owing, on the other hand, to a selfish motive, that the lack of proper bathing facilities would eventually decrease the economic value of the poor classes; suffice to know that the movement received firm support through both private and public means and apparently, at the present time, it is firmly established abroad as well as throughout this country.

To Liverpool must be given the credit of having established the first modern public bath. The Corporation established in that city, in 1794, a public swimming pool which from the start proved successful. This modest beginning was followed by another and larger type of river bath (the St. George Bath), since remodeled and in use to-day and now known as the Pierhead Baths. While not of a strictly modern type these baths are still proving of great benefit to the community.

The tub bath in England, known as the slipper bath, is



FIRST FLOOR PLAN.

HAGGERSTON BATHS, LONDON.

1. Public Laundry.
2. Ironing Room.
3. Waiting Room to Laundry.
4. Entrance Corridor to Laundry.
5. Pool.
6. Office.
7. Men's Waiting Room.
8. Women's Waiting Room.
9. Women's Tub Baths.
10. Club Room.
11. Area and Courts.
12. Special Exit from Pool.
13. Men's First Class Tub Baths and Office.

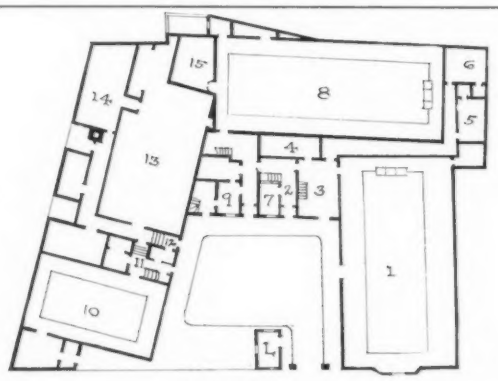
another development of this form of bathing and proved very popular, although later on came in for considerable criticism, owing to the room required, the great amount of water used, the difficulty of keeping the compartment and the tub clean, and the growing doubt of its efficiency as a proper form of bath for an ample and complete cleansing of the body.

The shower or spray baths were the next step, modeled after a simple form of workman's bath, established some years before in Shropshire, England, which in turn were patented after the German type. These primitive shower chambers were very large, being eight feet long, four feet wide, with a circular cast-iron pan set above the floor. Over the center of the pan a rose nozzle was placed which supplied hot and cold water, with a simple chain control to regulate the supply. Occasionally the shower was placed in the same compartment with the tub bath. While this primitive form of shower and spray has been greatly improved, the shower, the most practical of all forms of bathing, has not proved very popular in England except as an auxiliary to the tub bath, or pool. English ultra conservatism rigidly adhered to the warm and cold slipper tub bath, the vapor and hot air baths.

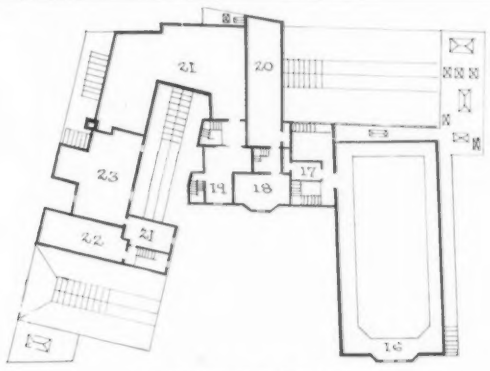
The public wash house and laundry were incorpo-

rated in the British bath house about 1850. Owing to the legislative enactment and consequent government support, with a revival of public interest, the building of these bathing establishments has steadily increased up to the present time. The last two decades have, however, seen the greatest activity, and the majority of the English institutions of merit date from this period.

The pool bath in its various forms has proved the most popular form of bathing in England, and while the continent, we find, as in the transportation service, two, and occasionally three, classes of patrons. First and second pool bath, first and second shower or vapor baths, first and second and even third class tub baths had to be provided for. The question of proper entrances and exits was of considerable importance. In one case the classes were grouped with an entrance in common or all near the same point, and in another with separate entrances and offices. A modification of the latter scheme



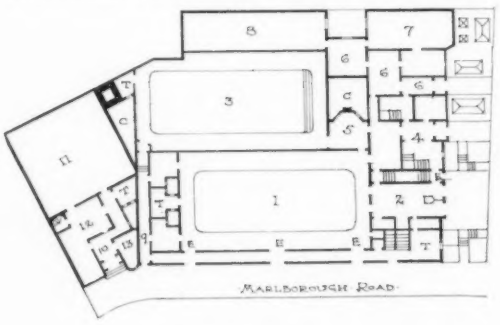
FIRST FLOOR PLAN.



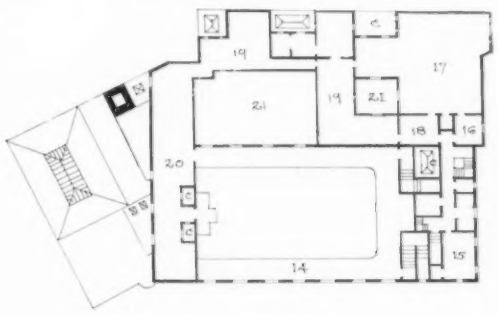
SECOND FLOOR PLAN.

TIBBERTON SQUARE BATHS, LONDON.

1. First-Class Pool Bath.
2. Entrance to First-Class Pool.
3. Entrance for Entertainments.
4. Coats.
5. Women's Retiring Room.
6. Men's Retiring Room.
7. Office for First-Class Pool.
8. Second Class Pool.
9. Superintendent's Office, Second-Class Pool.
10. Women's Pool.
11. Office and Entrance, Women's Pool.
12. Entrance to Laundry.
13. Public Wash Room.
14. Ironing and Mangling Room.
15. Retiring Room.
(L) Lodge.
16. Spectators' Balcony to Pool.
17. Women's Waiting Room.
18. Men's Waiting Room. First-Class Tub Bath.
19. Men's Waiting Room. Second-Class Tub Bath.
20. Men's First-Class Tub Room.
21. Men's Second Class Tub Room.
22. Women's First-Class Tub Room.
23. Woman's Second-Class Tub Room.
24. Tub Room. Office.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

OLD KENT ROAD BATHS, LONDON.

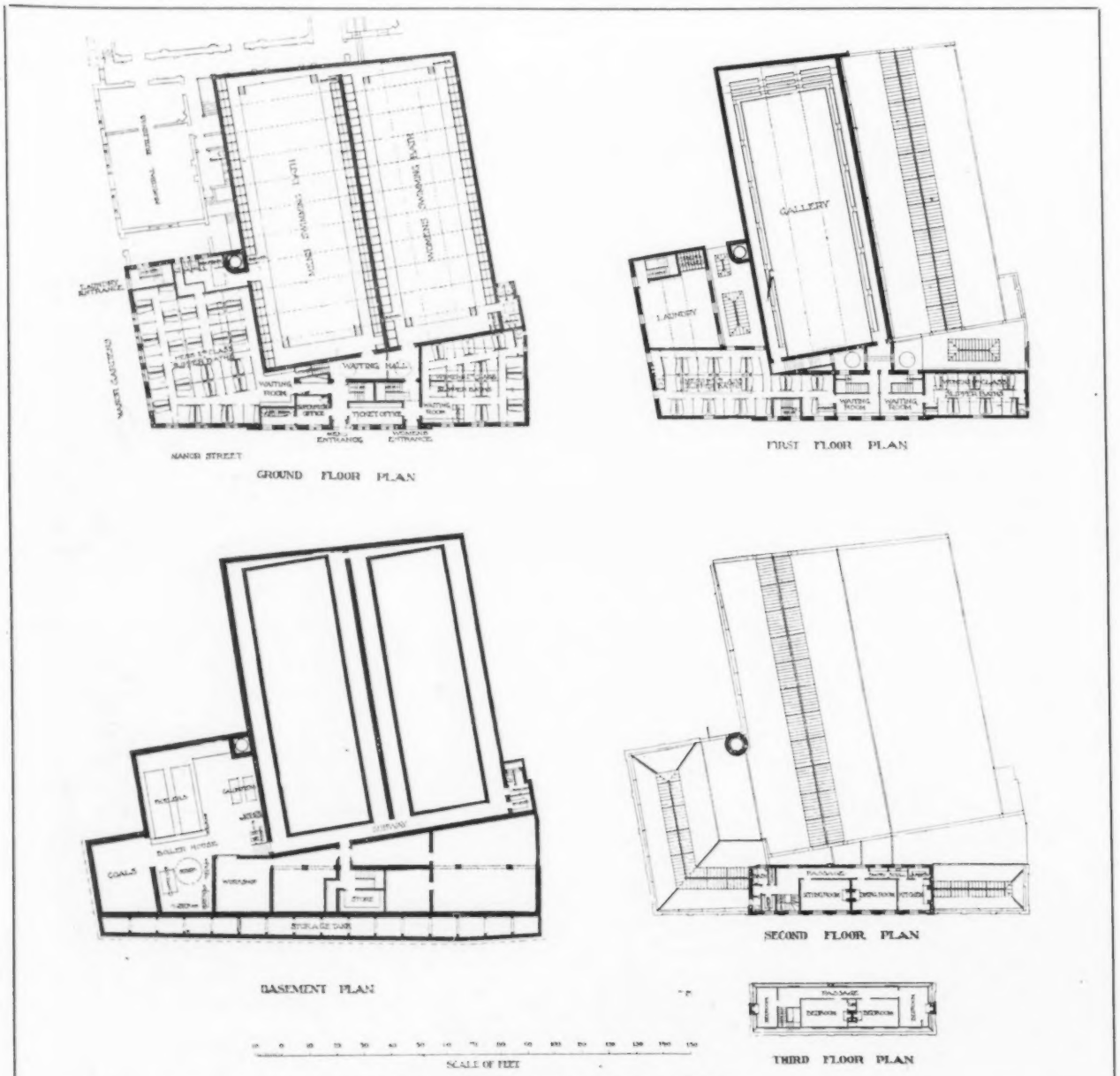
1. First-Class Pool.
2. Entrance to First-Class Pool.
3. Second-Class Pool.
4. Entrance to Second-Class Pool and Waiting Room.
5. Club Room.
6. Women's Entrance and Waiting Room.
7. Women's First-Class Tub Room.
8. Women's Second and Third-Class Tub Room.
9. Entrance to Second-Class Men's Pool.
10. Entrance to Public Laundry.
11. Wash House.
12. Ironing and Mangling Room.
13. Office.
(T) Toilets.
(C) Courts.
(E) Exits.
14. Spectators' Balcony.
15. Board Room.
16. Waiting Rooms First-Class Tub Baths.
17. Men's First-Class Tub Baths.
18. Men's Second and Third-Class Waiting Room Tub Baths.
19. Men's Second-Class Tub Baths.
20. Men's Third-Class Tub Baths.
21. Courts.

authorities are somewhat divided as to its merits, almost every modern bath house is equipped with one or two pool baths. In order to better understand the difficulties of planning the buildings at this time, we must consider the various conditions as required by the Public Bath Act, and make due allowances for the general experimental and unsettled condition of the bath problem, particularly in regard to the proper form of bathing considered essential.

Owing to the strong feeling of class distinction on the is now generally accepted in England as the correct one, *i. e.*, separating the entrances but with one controlling office for both waiting-rooms. The entrance to the laundry is generally separated and occasionally used also for the second-class baths. One of the typical baths of the earlier nineties is the London Hornsey Road Baths. The architect, A. H. Tiltman, has grouped around the quadrangle the various departments of the establishment diverging the different classes of bathers.

The first-class plunge room is of the commonly ac-

cepted English type with dressing compartments off the runway to the pool. It is interesting to note that emergency exits have been provided to conform to the requirements of the building laws on Assembly Halls, for in the winter, when the attendance falls off, the plunge room is converted into a lecture hall and place for entertainment, and the balcony provides additional room for spectators. The modern plunge baths of the first class



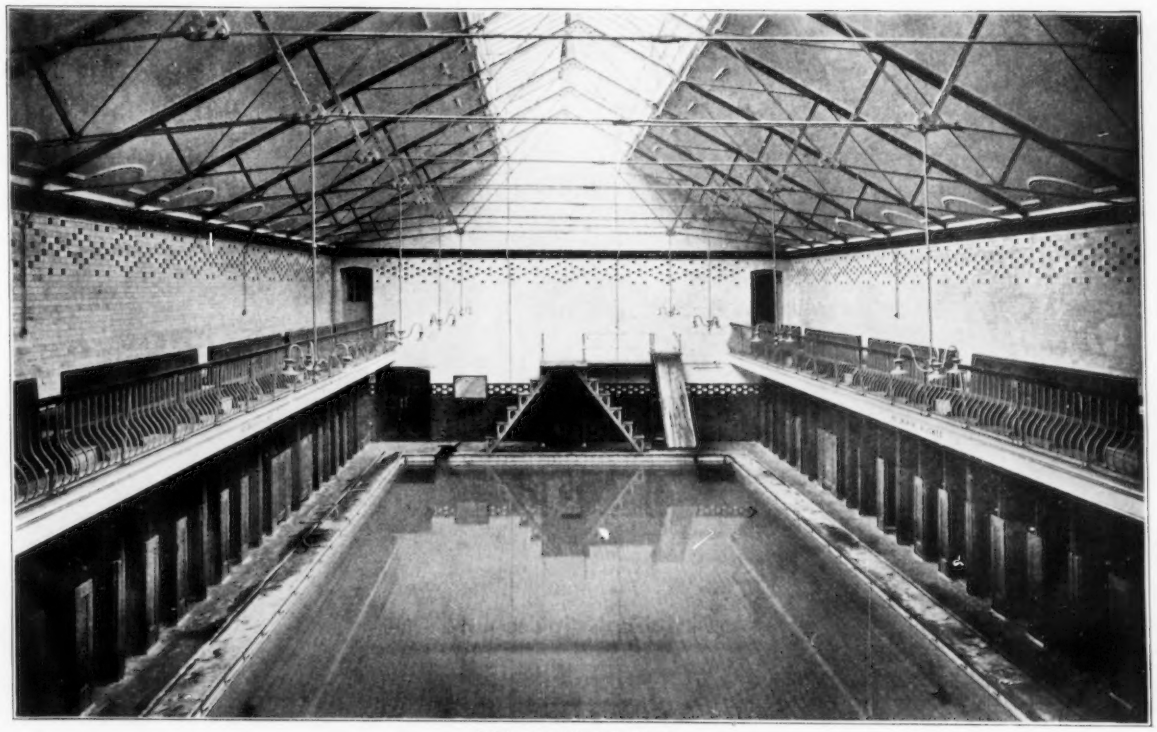
PLANS, CHELSEA PUBLIC BATHS, LONDON.

are, as a rule, thus utilized throughout England.

The second-class baths in the Hornsey Road Baths are most inconveniently placed at the extreme end of the building with the only access by means of long and irregular corridors. The dressing compartments for the second-class pools are in a separate room, an arrangement which appears to be superior to the ordinarily accepted English arrangement. The tub baths or slipper baths of all classes form over fifty per cent of the total bathing capacity, and the large space required for this considerably decreases the efficiency of the establishment. A considerable item was the enormous amount of water required for these baths, in one year exceeding an outlay of $6,000. It was eventually found necessary to use Artesian wells and pumping, which has cut down this item of expense nearly fifty per cent. This question of wells and pumping has not as yet received the attention it deserves by the municipalities in this country.

Of the same period of construction and similar in general type are the Kennington Road Baths, also on an irregular plot of ground. This establishment having a frontage on two streets allows better access and easier distribution for both classes of bathers than does the Hornsey Road Baths. The different departments are

THE MAIN FACADE.



THE SWIMMING POOL.

CHELSEA PUBLIC BATHS, LONDON.

conveniently placed with the exception of the woman's second-class baths. The public laundry and wash house of these baths having an interior position with court and skylight openings, are also inconveniently placed. The plunge room is similar in its general arrangement to the Hornsey Road Baths and the dressing compartments off the runway to the second-class pool are open boxes similar to the general continental custom for second-class baths.

The Tibberton Square Baths seem to offer the most practical and simple solution of the English bathing problem at this period of development. The departments are easily accessible, the long corridors have been partly eliminated, the plunge rooms are conveniently placed and the laundry particularly so for light and air. Cross ventilation might have been obtained by extending the rear court, though sacrificing a small part of the laundry space for this purpose. The tub rooms are very properly placed on the second story, as this form of bath may be considered a luxurious feature of the establishment. The isolation protects this class of bathers from the disturbing noises of the plunge room, which are always objectionable when these compartments are adjacent to the plunge room.

In the latest period of bath development in England we find most of the facilities of the early nineties, with the addition of gymnasiums, club rooms, small libraries or reading rooms, and occasionally rooms for municipal purposes. The desire to provide facilities for the different classes naturally produced a most elaborate and complicated structure.

Tiltman suggested a remedy for this over-centralization, and his views are also of value for cities of the first class in this country. He said that the general public cannot be expected to go more than half a mile for their baths and laundry, and as the majority to be benefited are of the very poor classes, they are often repelled by these ornate and elaborate structures. He suggested a central establishment for any particular section of the city with a group of small unpretentious buildings as auxiliaries, placed at convenient and proper distances, depending upon the character and density of the population. The central establishment should serve as an administration building for the group, and should be prominently and conveniently located on the main thoroughfare, and provided with baths of various forms, a public laundry and a bath laundry for all purposes. The small bath buildings were to be economically equipped with a small number of shower baths, or alternately provided with tubs and showers.

Tiltman's suggestions were not adopted by the municipality, but the discussion resulted in a more simple and rational type of building, of which the Haggerston, Old Kent Roads and Chelsea Baths, recently completed, are good examples.

The Hagerston Baths in the environs of London are particularly interesting as showing the introduction of separate shower compartments, though they still retain the use of the tub bath. A reaction had set in in regard to the extravagantly large English pool baths, as, for example, the Battersea Pool, which was 50 feet by 150 feet in water area and contained some 250,000 gallons of water, a volume which furthered the sanitation of the bath, though the expense of replenishing and heating the water was a considerable item. The difficulty of properly heating such a large volume of water was the reason that this and other English pools were not generally used for bathing purposes during the winter months, and so the true purpose of the institution was impaired. The water area of the Haggerston Pool is 35 feet by 100 feet, now accepted as the standard dimensions by the English authorities. The plan shows separate entrances provided for the sexes, with a superintendent's room in common. Separate waiting rooms are also provided for the tub bathers, with a small clubroom adjoining the first-class plunge. The dressing compartments and one or two shower compartments off the runway, and spectators' balcony illustrate the adherence to the early English type of plunge rooms. The access to the various departments of this bath is most direct. The laundry is properly placed on the first floor off the main street with an admirable arrangement of the washing, drying and mangling rooms. For simplicity this bath is exceptional among English examples.

The Old Kent Road Baths show the advantage of a corner site with ample frontage, particularly for the efficiency of the numerous departments of the English establishment. The first-class pool room, considering its winter purposes of entertainment, has been planned with its long side on Marlborough Road with an outside corridor provided with the necessary emergency exits. The entrances to the first-class pool and to the first, second and third class tubs for both sexes are from the Kent Road. The entrances to the laundry and second-class pool are from Marlborough Road. In this bath the women's tubs are arranged on the first floor and the men's three classes of tubs on the second floor. For convenience and ease of supervision, the first-floor plan is to be commended, but the second-floor arrangement shows a very inaccessible position of the men's second and third class tub rooms, resulting from the intention to control from the Kent Road in preference to the Marlborough Road entrance. Clubrooms are again in evidence and suggest recreation purposes rather than the strictly utilitarian. The shower bath is again conspicuously absent. The plunge room is used, as is customary in the winter, for lecture purposes. In addition it is provided with a movable stage and fireproof curtains and complete lighting equipment for dramatic entertainment.

The Chelsea Baths, completed in July, 1907, are simple and economical in plan, still retaining provision for tub and pool bathing and public laundry purposes. Foot and needle baths as an auxiliary to the pool bath — a recent innovation from Germany — have been introduced into this institution. Hot air baths, the vapor or Turkish baths — another luxurious feature — have also been incorporated. The façade is simple in character, expresses its purpose well and is one of the few successful English examples.

In order to better understand what an important part the bath house has played in the social economy of England, a comparison of expenditures for hospitals and baths in the early nineties is of value: —

FROM 1890–1894, INCLUSIVE.

	Loans raised.	Loans outstanding.
Baths, wash houses,	$2,994,941.00	$6,297,324.00
Hospitals,	1,940,541.00	4,558,864.00

While this proportion of appropriation for public baths to hospitals in England has not been attained on the continent or in America, the growing appreciation of the bath system as a prevention of disease is becoming more and more evident, and it is believed that public moneys can be put to no better use than that of bath sanitation. The curative value of the bath in its various forms has long been recognized, but in its disciplinarian and strengthening qualities to the human race lies its value in the future.

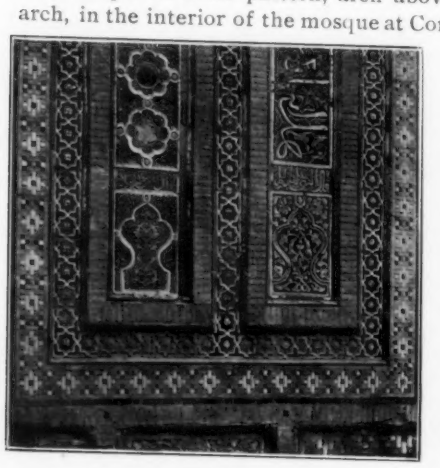
In our day it has been left to Japan to indicate to the so-called civilized nations, with their advanced medical propaganda, a method of applying sound principles of sanitation. In the late war no battle commenced without the preliminary bath. The results obtained, on consideration of aseptic principles, have been remarkable and inestimable. It may be that in the near future, owing to the efforts of Lasser in Germany, Vashar in England, Rohe and Baruch in America, who have blazed the way for a universal adoption of a perfect system of bath sanitation, — that buildings of this class erected for the prevention of disease may render unnecessary the construction of buildings for curative purposes — the hospitals.

We find that the principal development in English baths during the past century is in the ample swimming facilities provided, in the sanitation and perfection of their plunge rooms, and in the improvements of their public laundries and the various machines and appliances for these purposes. On the other hand we find an adherence to the antiquated inside corridor with the dressing rooms off runways to pool, meager shower-bath facilities, and, as a rule, complex interiors and over elaborated exteriors. This is owing, no doubt, not so much to defect in plan as to a result of providing too many facilities. An expensive exterior, in addition to luxurious interior appliances, represented a large outlay to the community with no corresponding return, and it would appear that the development of the bath house in England was again in danger of overreaching itself, — the stern lesson of Roman decay seems to have been forgotten. Numerous protests for reform have encouraged the building of baths on more simple lines, but the complicated and elaborate English bath shows little dimunition in number.

Brickwork Details — III.

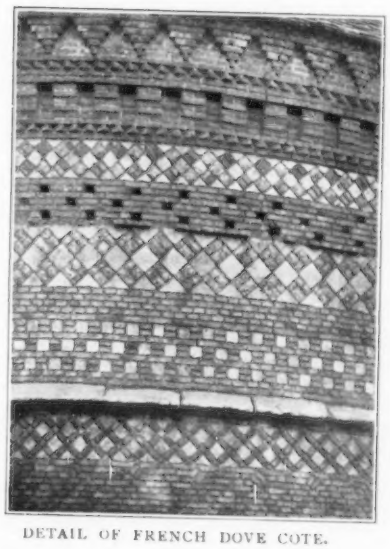
BY HALSEY WAINWRIGHT PARKER.

BRICK BALUSTRADES. — Balustrades built of brick are often of interesting design whether of successive piers, or piers with ornamental panels between, or thin walls with perforations. In the latter case they should either be placed at the top of a wall so as to be out of reach or set in cement supplemented by clamps, etc. The diaper patterns of brick walls make excellent balustrades if the centers of the chequers, etc., are omitted; and successive arches forming scale patterns also lend themselves to balustrade treatment. These scale patterns may be varied in many ways — for instance, the alternate rows can be different size if a straight course be placed between them, or patterns may be alternated between the small arcades, or alternate large and small arches may be used. There is an example of scale pattern, arch above arch, in the interior of the mosque at Cordova — over the colonnade of the numerous aisles. The wall over these colonnades is actually a brick lattice of large scale, and the effect of successive arch lines in perspective is very rich and interesting. Skeleton walls of this character can be made very effective. The reveals of brick balustrades, while necessarily of eight inches in thickness to secure stability, should not be greater than the widths of the openings between the solids if any effect of lightness is desired. The introduction of glazed brick in the balustrade is especially effective, when the color is confined to the outside surfaces only, the reveals being left without glazes. The perforations at the tops of the pigeon houses in French manors are often excellent in detail.



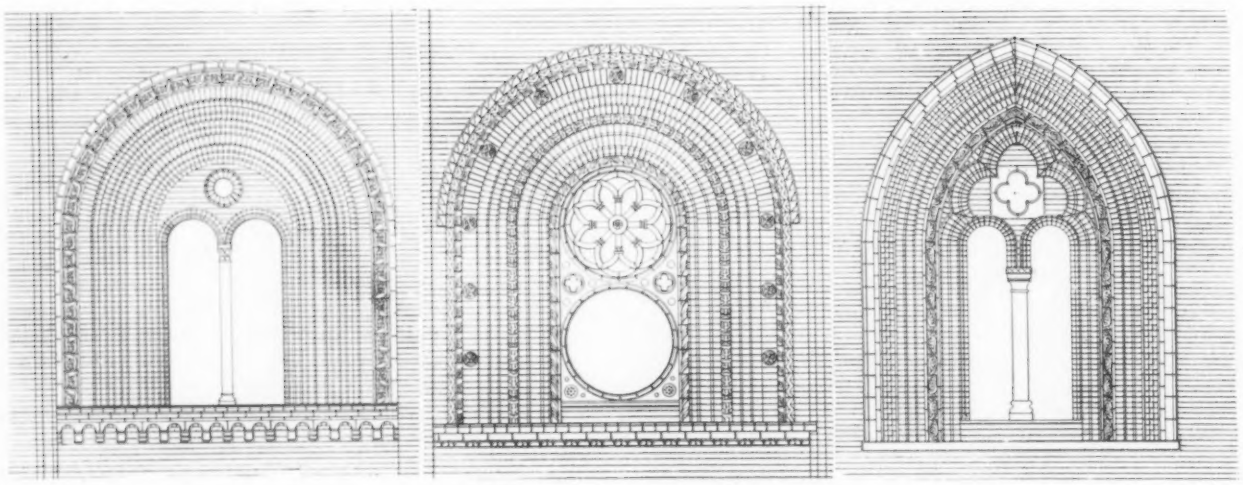
EXAMPLE OF PERSIAN BRICKWORK.

EXAMPLE OF PERSIAN BRICKWORK.



DETAIL OF FRENCH DOVE COTE.

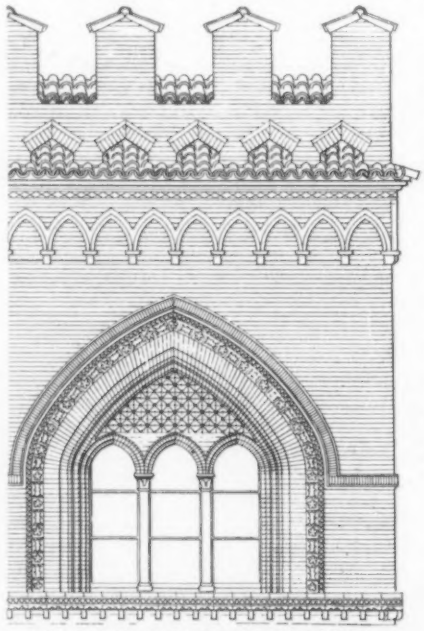
BRICK PARAPETS. — The machicolations of fortified walls and towers are often of brick, consisting merely of openings cut down through the parapet wall to allow the defenders opportunity to repel attack while protected



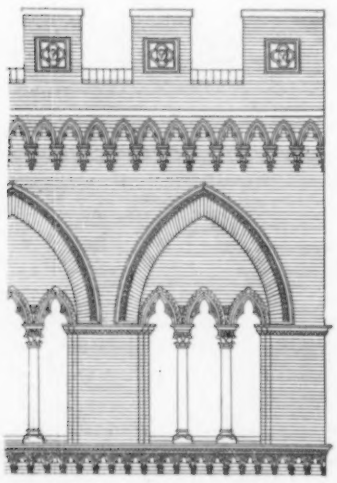
WINDOWS IN THE DUOMO, CREMA.

by the masses of high wall between the openings. In Italy there were two marked terminations for these sections of protecting the walls, each of which indicated the party to which the fortification belonged. The Guelphs, or followers of the popes, built square-topped crenellations, while those of the Ghibellines, or followers of the Emperor, were cleft or swallow-tailed in shape. Oriental parapets were usually stepped.

The alternation of light and shade in these parapets make an interesting silhouette against the roofs and the sky and enrich an otherwise severe line, in much the same manner as a classic cheneau. There can be great variety in the detail, as elaborate traceries of brick patterns can be used. As these parapets have lost their original purpose and are now ornamental features only, there is no need for heavy masses of brickwork in their design, and while the alternate masses are retained to obtain scale, within the profile perforations are possible. Focussed detail of glazed brick upon the axes of the units produce a rich crown motive to the cornice or to wall.



FROM THE PALAZZO GONFALONIERI, CREMONA.



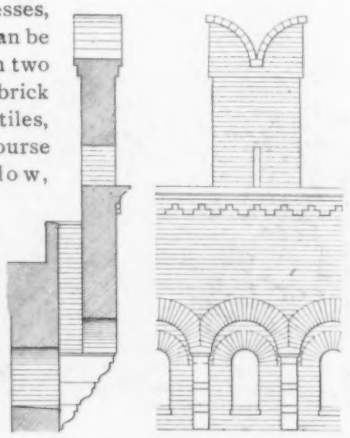
FROM THE PALAZZO BUONSIGNORI, SIENA.

Brick Tracery in Window Openings. — Brick tracery must necessarily be crude and is seldom satisfactory, as the multiplicity of joints indicates small cohesion in slender forms, and large course forms are usually out of scale with the building. Tracery of molded brick is somewhat better than of ordinary brick, but is seldom successful.

The skeletons of the tracery are of the simplest description, and the difficulty of securing the bricks together makes this work somewhat of an affectation, wood, stone and metal all being better fitted for the purpose.

The windows of the Mohammedan towers of the Giralda in Seville, and of the Alminar in Cordova, as well as those of numerous Moorish buildings in Spain and in Northern Africa, are treated with extremely interesting, but in most cases unconstructional, brickwork. Molded and unmolded brick tiles and terra cotta are all associated in these windows, and there is great latitude shown in the designs — which indicate the infinite possibilities of line and color in brickwork.

Brick Copings. — Copings and sloping surfaces, such as the slopes of buttresses, etc., can be laid in two ways: first by using the brick in the same manners as tiles, making each successive course overlap the one below, the bricks being laid as inclined stretchers across the trend of the wall, or they can be laid as inclined headers, the heads sloping with the pitch of the coping, etc. Both should be set in cement, on account of the exposed



FROM THE CASTELLO, PAVIA.

DETAIL OF ENGLISH HOUSE.

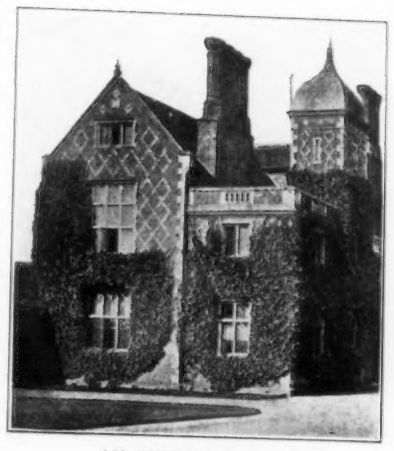
top joints, which are subject to weathering.

Brick Crestings. — Brick crestings upon ridges are unusual, terra cotta, stone or metal being better adapted to the purpose, but occasionally a crude cresting appears, formed by projecting alternate courses laid across each other, log-cabin fashion. Such crestings are very rare, and weather badly, and are practically worthless.

Brick Columns. — Circular piers of bricks of large diameter are built merely to avoid corners, but columns of smaller diameter have a crude appearance, and are better made of other material. A small brick column seems in danger of disintegration because of the number of its joints. Vertical joints are not advisable in any columns, as they suggest weakness. Columns of special bricks with curved surfaces are but little better. Piers with polygonal plan, when built of brick, require considerable plan area before they appear sufficiently strong.

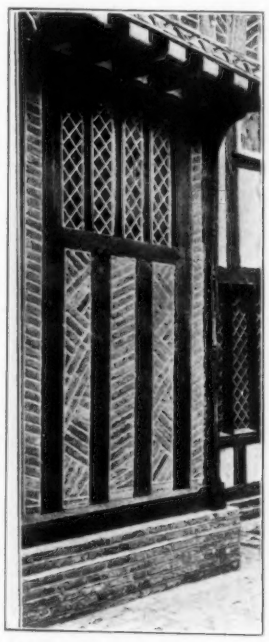
There occur examples such as the buttresses of the Cathedral at Albi, in which the light and shade upon the columnar forms are admirable in effect, but in this, as in other similar cases, the mass of brickwork is sufficiently large to make the joints unobtrusive.

Brick Chimneys. — The treatment of chimney tops above the roofs has been much neglected in American work, while in England, France and Germany the chimneys are made very decorative in effect. As they are vertical motives, the treatment is usually either in long pilaster lines, or in long panels, and many of the best chimneys are built upon a plan in which the surfaces are diagonal to the face of the chimney.



AN ENGLISH HOUSE.

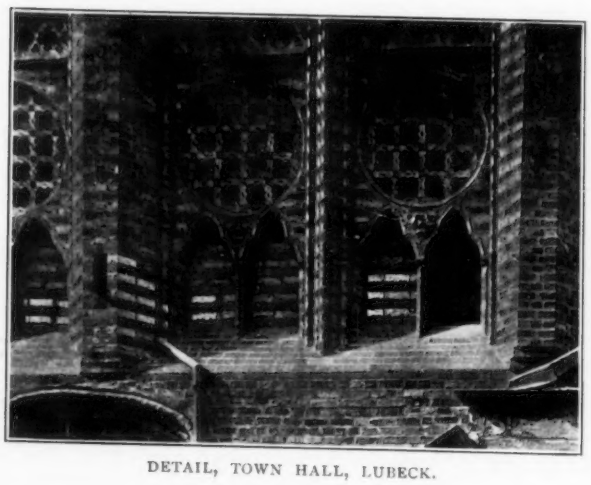
There are especially fine examples of these chimneys to be found in English country-house architecture, especially in the designs of Mr. Norman Shaw and Mr. Pearson. In the earlier work, the best of the chimney designs occur before the time of the Classic Revival, as the formality of the Classic forms was not in sympathy with the picturesqueness which is characteristic of brickwork. The detailed brick chimneys may therefore be sought in work done under the Tudors and the Stuarts.



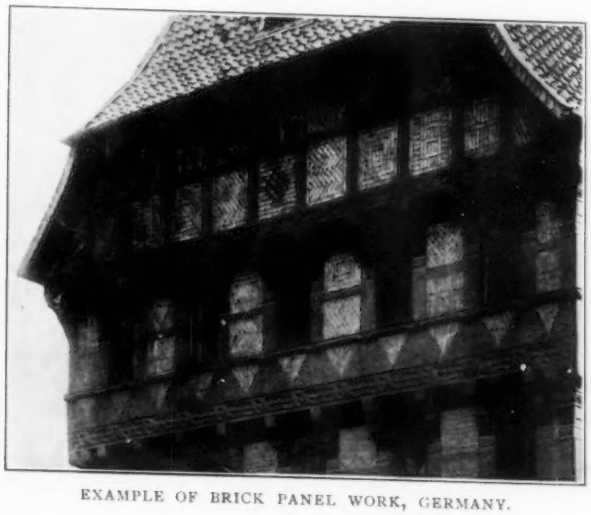
OLD ENGLISH EXAMPLE.

Stepped Gables — These are to be found in North Germany and in Holland, of the most picturesque forms, with silhouettes of combinations of straight steps and simple or compound curves, and frequently with perforations near their outer edges. The successive steps are often arcaded, and are also accented by the introduction of glazed or colored bricks, either as borders or as foci.

Molded Brick — The moldings upon brick are usually simple single molds, such as plain chamfers, quarters and half rounds, cavettos and single cymas or ogees. Small



DETAIL, TOWN HALL, LUBECK.



EXAMPLE OF BRICK PANEL WORK, GERMANY.

PICTURESQUE ENGLISH TYPE.

fillets seldom occur, as they are likely to be broken in delivering the brick, and in the coarser clays used in brick making flaws would destroy sharp arrises. The fillets, therefore, are built of the unmolded brick, and are at least two inches broad, and this fact alone creates a large scale in the moldings of the molded brick as they are designed to be associated with ordinary brick. Also as edges easily broken are to be avoided, delicacy or sharpness of molding cannot be expected, and the curves are robust and are usually parts of circles. But from combinations of these simple forms, most interesting details may be obtained. Molded brickwork develops naturally a similar set of combinations of moldings as those in stonework—with the exception that soffits of great projection are impossible in brick. For this reason, the facial angles of groups of moldings in brick are usually greater than of similar groups in stone, and multiplicity of moldings compensates for lack of projection and consequent shadow.

DETAIL OF ENGLISH COTTAGE.

AN ENGLISH COTTAGE CHIMNEY.

Cornices. — As it is impossible to obtain in brickwork heavily projecting cornice soffits, excepting when supported by corbels set near together, the brick cornices do not resemble classic cornices, excepting, perhaps, in having the same integral factors of bedmold, facia and corona. They are necessarily flatter than classic cornices, the facial angle of the cornice being greater than forty-five degrees. The bedmold becomes elaborate, being made up of corbel courses, often one above another, and the motives resemble the cornices of military building more than they do those of the orders of architecture. The molded brick tend to greatly refine these cornices, and are used not only in the lines of the long moldings, but also in the stepped courses of the faces of the corbels. Many of the motives of stone Romanesque architecture, such as the broad paneled lintels, the corbel courses in which small arches are sprung from corbel to corbel, etc., can be readily adapted in brickwork, and these arcaded corbel courses not only create vigorous shadows which could not otherwise be obtained in the material, but they can follow the rakes of pediments and gables, and, if on sufficiently small scale, may be carried around arches. Apart from the moldings of simple curves, the corner rolls on molded brick are of the most value in combinations. These are either simple roll moldings or roundels, or roll moldings with concave hollows on either side of the roll. They make admirable inside edges to arches, and if laid over each other in piers, produce delicate colonnettes. The quarter round hollows are best in balustrades or in window traceries, or as foils to the convex moldings. The repetition of the same molding in successive bands, which is introduced in much modern brickwork, is apt to be monotonous and ineffective. In the brickwork of Northern Germany at Luneborg and Lubeck, Wismar and Stralsund, square corners are carefully avoided around openings, a simple quarter round molded brick being used. The effect is to soften shadows, but it is rather coarse and large in scale. It does, however, produce a very typical brick architecture.

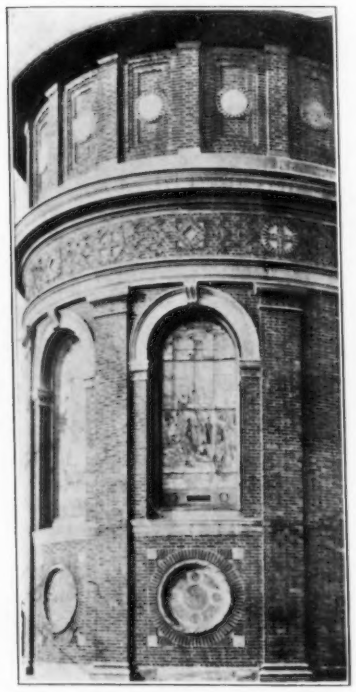
DETAIL OF ENGLISH COTTAGE.

Brick with dog tooth chamfers on their corners produce brilliant fringed edges in light and shade. The bricks with stamped patterns are actually a crude variety of ornamented terra cotta and are to be considered as modeled ornament. They afford variety and contrast to the common brick, as do fragments of marble or glazed tile or metal set into the brickwork.

ENTRANCE TO STUDIO BUILDING.
Harold Van B. Magonigle, Architect.

Brick Vaulting. — The surface of brick vaulting may be considered as the soffits of arches and capable of receiving similar patterns, excepting that it is not advisable to panel the surfaces, as heaviness of effect results. In groined vaulting the ribs of the vault must either be of ground brick or of brick especially made for the purpose. Herringbone pat-

McKIM, MEAD & WHITE, ARCHITECTS.



DETAIL OF APSE, COLUMBIA UNIVERSITY CHAPEL.
Howells & Stokes, Architects.

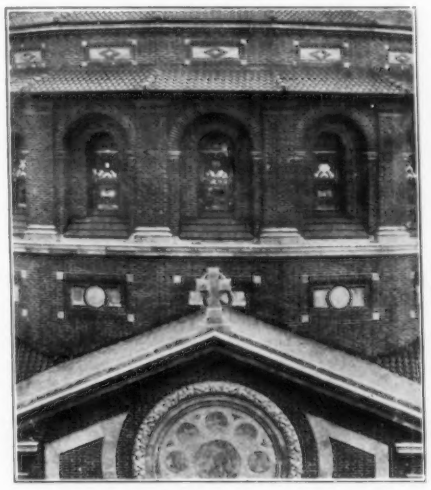
where, offer suggestions for designs which could be effectively produced in brickwork.

TONE IN BRICK. — As brickwork is a mosaic made up of definite regular units, the color or tone of each unit should be even throughout the surface of the unit, effects of change of tone being made by combinations, not by graded tone in the individual brick.

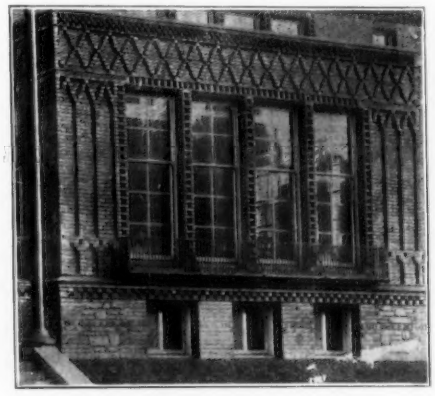
The fire flashed brick, dark at one end and light at the other, tends to disturb surface, texture and pattern, and has no intrinsic merit in itself.

The usual patterns of brickwork are so simple that they can be deciphered when all the brick are of one tone and color, and a very slight difference in tone or color makes them perfectly definite. It follows that violent contrasts of color or tone are to be avoided, the effect being much more subtle when variations are slight. The contrast of black and white checkered patterns is in most cases disagreeable, but the same patterns become agreeable in two tones which are but slightly different from each other. The introduction of bench brick in lines or spots should be very carefully studied, for dark courses need to be lighter than the shadows or the shadows are ineffective and valueless. Upon the other hand, the introduction of dark brick in the shadows, to intensify them, frequently gives brilliancy of definition. Dark courses, therefore, are of value below projecting bands rather than above them, and dark brick are preferably placed between corbels rather than in the corbels. The alternation of dark and light brick in arches goes far to destroy the lines of the arch, though an occasional dark line dividing the arch into voussoirs gives scale to the surface.

The primitive rule which Owen Jones states in his Grammar of Ornament, *i.e.*, that projecting surfaces should be of light tone and receding



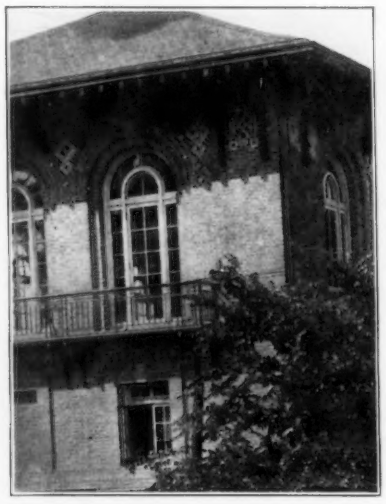
DETAIL OF DOME, COLUMBIA UNIVERSITY CHAPEL.
Howells & Stokes, Architects.



DETAIL OF SCHOOLHOUSE, ST. LOUIS.
William B. Ittner, Architect.

terns are especially effective in vaulting.

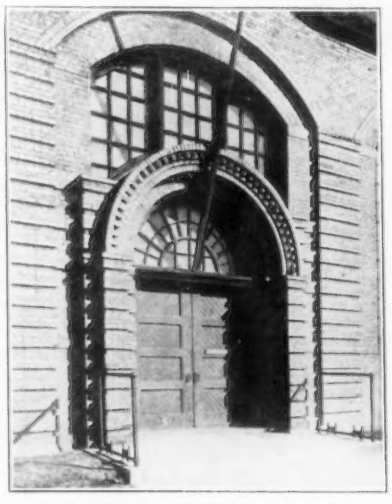
BRICK PAVING. — Paving patterns can be very considerably freer in design than wall or soffit patterns, as the element of apparent structural strength is removed; in fact, almost any mosaic patterns can be made in brick pavements, and the scale of the pattern increases, as the brick can be laid on their sides without the necessity of headers to secure bond as in walls. Many of the patterns in the marble mosaic floors of St. Marks in Venice, the Christian basilicas in Rome and else-



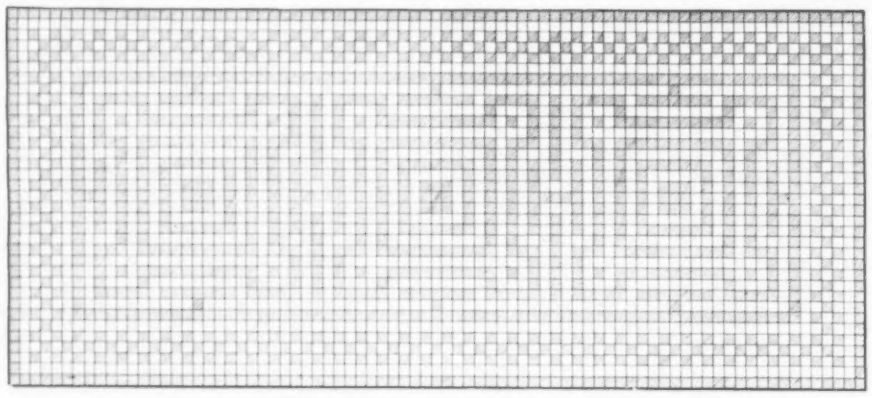
FIRE STATION AND AMUSEMENT HALL.
Lord & Hewlett, Architects.

surfaces of dark tone, is especially applicable to brickwork. Opening and edges are best defined with light tones.

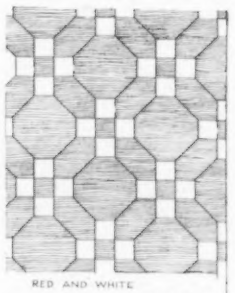
COLOR. — The color of the brick is necessarily that of the clay, which ranges from light grays through the tones of dark gray to browns, and light straw colors to deep reds. The introduction of iron filings into the clay produces



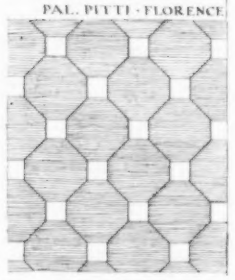
ENTRANCE TO FACTORY BUILDING.
Pond & Pond, Architects.



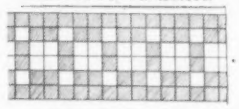
4 Square red & white, unglazed tiles — Palazzo Pitti — Florence.



RED AND WHITE
PAL. PITTI · FLORENCE

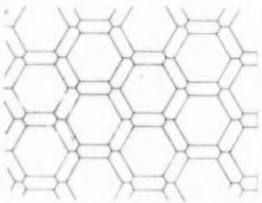


RED AND WHITE
PAL. PITTI · FLORENCE

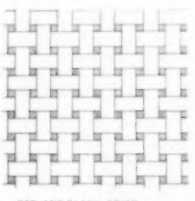


·PAL. PITTI·FLORENCE·
RED & WHITE TILE BORDER

·A COLLECTION OF PAVEMENTS·

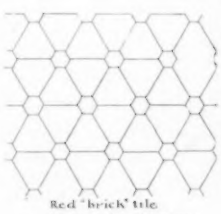


Red unglazed tile
·PRATO·

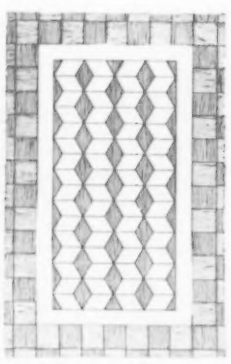


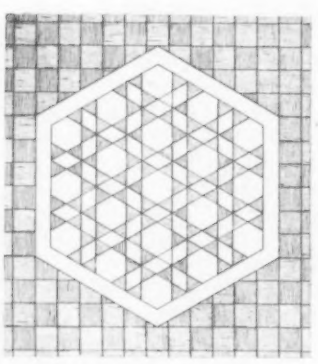
RED AND BLACK BRICK
HOUSE IN ROME

Red Brick
FLORENCE

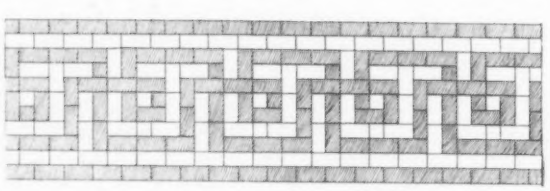


Red 'brick' tile
House in Florence

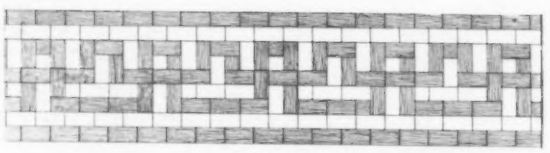




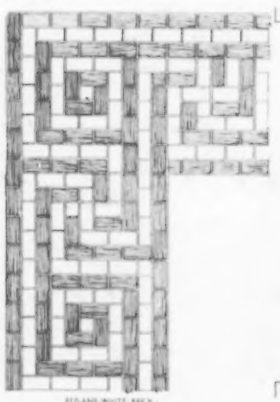
RED AND WHITE UNGLAZED TILE – PALAZZO PIETRO MASSIMO – ROME



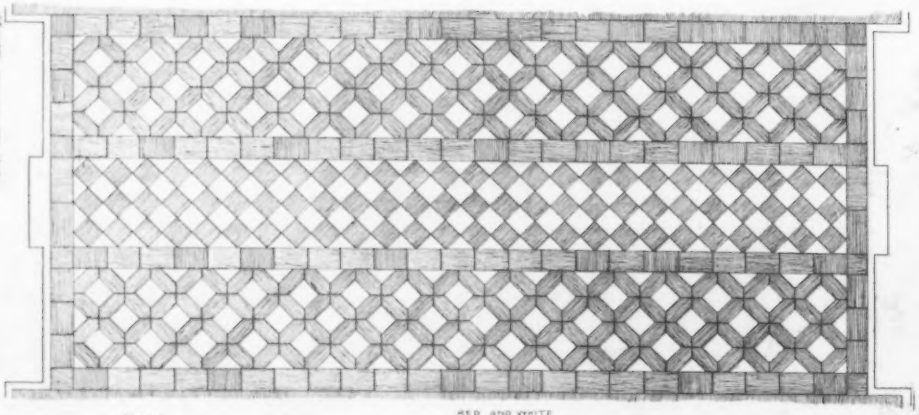
·ROME·



RED AND WHITE BRICK BORDER – ROME



RED AND WHITE BRICK
FROM THE CARITÀ
VENICE



SCALE

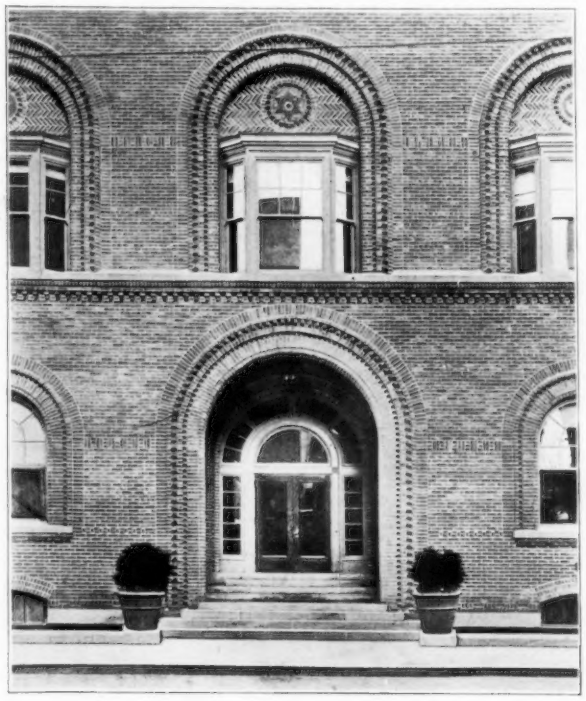
RED AND WHITE
·PALAZZO FARNESE·ROME·

EXAMPLES OF ITALIAN PAVEMENT PATTERNS.

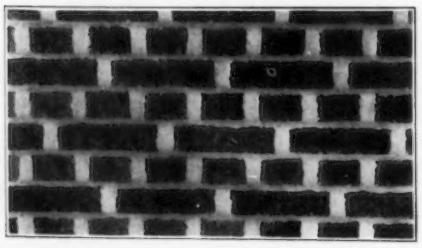
INTERIOR COURT TREATMENT.
Wilkinson & Magonigle, Architects.

mottled surfaces. With so wide a gamut of color and tone great variety in effects produced by contrasting brick of different clays is possible. Very little advantage has been taken of this opportunity. Such contrasts can easily be overdone, but in skillful hands should produce very agreeable results. In the buff brick there are many examples of hot yellows, strong orange tones, etc., which are disagreeable and aggressive in large masses, and in the mottled brick there is often an effect of bituminous ooze which is to be avoided. As a matter of fact, the gray brick and red brick are best both in tone and color.

GLAZED BRICK. — Glazed brick have either transparent or opaque glazes. If transparent, the glaze merely enriches the color of the brick; if opaque, the result is a faience which can be in any color. The glazes, if left brilliant, are disturbing in large surfaces because of the reflection of light, and in all such surfaces dull glazes should be used. The texture of the surface of glazed brick is of a totally different character from that of unglazed brick, and this fact should be considered in associating the two together. The glazed product is a finer material and has the same comparative quality with the unglazed that silk has to wool. It should be used in small quantities as contrast only: in fine lines, borders and centers of ornament. The interstices of the structure, such as spandrils, tympana and panels, offer opportunity for the introduction of glazed brick patterns. In North Germany green glazed brick are used effectively as trims around openings in red brick buildings.



ATHLETIC CLUB, ROCHESTER, N. Y.
Bragdon & Hillman, Architects.

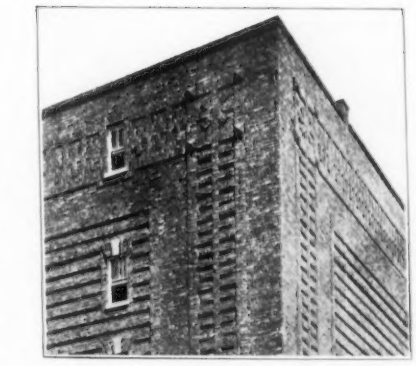


WIDE JOINT BOND.

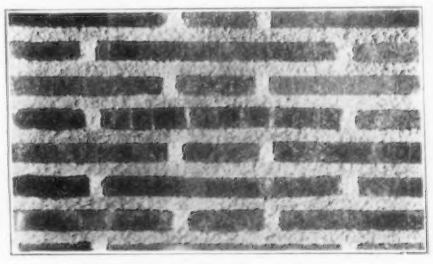
FROM the recently discovered diary of Architect John McComb, Jr., it is apparent that when the New York City Hall was built the duties of the architect were as varied as they are to-day. In turning the leaves of this old record a reader of the present generation sees a familiar aspect in the difficulties that beset the architect of a hundred years ago. "Calculations of expenses must accompany plans," so ran the advertisement the building committee issued in order to obtain a design. And there was the usual vacillation on the part of the "City Fathers" concerning such radical things as the length and depth of the building, and the kind of stone to be used.

We see the architect spending half of his time at the building and half at the quarry; we see him urging the quarrymen to continue shipping the marble through the winter by sledges over the snow; we see him engaging scaffolding poles; and we imagine between the lines of his handwriting many other things he did which mixed feelings may have restrained him from recording.

McComb's compensation for all he did was six dollars a day for every day he worked. Lemaire, the sculptor who carved the capitals, got four dollars a day. But there was other compensation, even though they themselves were not to enjoy it. Little was it realized then that the building wrought was to be pronounced by architects a hundred years later the gem of the city. Thus it stands to-day, invulnerable, by virtue of its intrinsic beauty, against the attacks of innovators and scheming politicians.



DETAIL OF WAREHOUSE WALLS.
Argyle E. Robinson, Architect.



LONG STRETCHER AND WIDE JOINT.

The Theater Building Competition.

THE SUCCESSFUL COMPETITORS.

RUSSELL EASON HART, who was awarded the First Prize of $500, is at present connected with the office of C. B. J. Snyder, architect for the School Board, New York City, and at the same time he is taking a special course in architecture at Columbia University. His early training was received in the offices of Noland & Baskerville, Richmond, Va.; Cram, Goodhue & Ferguson, H. Van Buren Magonigle, Carpenter & Blair, and in the Atelier of Frank E. Perkins, all of New York City. At present he is a student in the Hastings Atelier, under John V. Van Pelt.

Charles Romer and Frederick J. Feirer, who were awarded the Second Prize of $200, are both students in the Atelier Hornbostel, New York City. Mr. Feirer received his early training in the offices of Palmer & Hornbostel, and Howard Greenley, New York City, — while Mr. Romer received his in the offices of L. E. Jallade, Welch, Smith & Provot, Reed & Stem, R. S. Stephenson and A. N. Allen, all of New York City.

RUSSELL EASON HART.

FREDRICK J. FEIRER.

CHARLES ROMER.

Walter Valere de Mari, who was awarded the Third Prize of $100, is at present located in San Francisco. His early training was received in the offices of Warren & Wetmore, Palmer & Hornbostel and the Atelier Hornbostel, all of New York City.

RAFAEL GUASTAVINO.

RAFAEL GUASTAVINO, originator of the cohesive tile-construction which bears his name, died at his home in Asheville, N. C., February 2, 1908. He was born in Valencia, Spain, in 1842. Coming from a family of musicians, a portion of his early life was spent in the study of music. At seventeen he entered the office of D. José Nadal, an architect of Valencia, and from there he went to Bärcelona, where he took the full University course, and afterwards entered the School of Architecture.

RAFAEL GUASTAVINO.

Having embraced the profession of a builder as well as architect, as was then customary in Spain, he was largely engaged for many years in the erection of mills, factories, and other types of buildings, in which the necessity of fireproof construction was evident, and while erecting these he had every opportunity to experiment with concrete and tile for floor and roof constructions. He was guided by the study of the architecture of the Byzantines and Persians, whose influence had been felt in Spain from the third to the fourteenth century.

At the time of the Centennial Exhibition at Philadelphia, in 1876, a number of photographs of his work as an architect and inventor were exhibited in the Spanish government section; and having received a medal for these, he felt encouraged by that alone to visit this country as soon as he could find it convenient to do so. This did not occur until 1881.

His first work in this country was done in 1886 in a four-story private house on 78th Street, New York, and later in the Arion Club, 59th Street, whose building committee accepted his proposition, when they ascertained that with his arches they could make a saving of over $5,000 in two floors alone, largely on account of the amount of iron that was omitted.

With this experience and a series of experiments that he undertook in New York, he commenced the study of his art along scientific lines, and endeavored to adduce formulas based on constants, which for the first time in his experience he was able to obtain.

Mr. Guastavino was appointed architect for the Spanish Government Pavilion at the World's Fair, in 1893, at

Chicago, which was a replica of "La Lonja" at Barcelona, Spain, which was built in 1492.

At the invitation of the president of the American Institute of Architects, he read a paper before the International Congress of Architects, which was held at Chicago in 1893, on "Masonry Construction," which created a considerable amount of interest and discussion, and was considered one of the ablest papers presented. He was also appointed one of the international judges on a jury of awards for the Architectural exhibit in the Exposition.

Perhaps no better estimate of the man could be given than that by William E. Blodgett, who for twenty years has been associated with Mr. Guastavino in his work. He says:

"I distinctly remember my first meeting him some twenty years since, at the time he was starting on his first really large and interesting task in the line of construction which he originated and developed, the Boston Public Library. This building is still in some ways the best illustration of the possibilities of the timbrel vault construction, because of the diversity of its problems, the barrel arches, groined arches, and domes, all of them structural in their character, carrying the floor load, and also because of the fact that it was the first instance, in this country at least, of the use of that finished repressed and glazed tile development which latterly has become so largely a component part of the development of the system.

"Contrary to the general impression as to the Spanish character, I found him an extraordinarily alert and active man, both physically and mentally: in fact, I never met a quicker man in all my experience; a very hard worker day and night himself, he demanded the same kind of service from those associated with him — always industrious and never idling. While these characteristics softened very slightly with the passing of the years, they obtained up to the time of his decease, and though recently he did not devote himself so exclusively to the business of the company with which his name is identified, he always maintained a supervisory oversight, and spent the remainder of his time, not in ease, but in other forms of activity, to which his very versatile mind easily lent itself.

"Mr. Guastavino was an ardent lover of the truthful and the beautiful in the arts, and felt that his chosen profession of architecture was one of the noblest callings of man, and to it he gave all the wealth and energy of his resourceful nature."

As the personality of Mr. Guastavino was so largely identified with the type of construction which he originated, the inquiry naturally arises as to whether there are those left who can successfully carry on and develop the system with which his name has been so long associated. Some ten or a dozen years ago, the business was put into a corporate form, and his son, bearing the same name, has been vice-president and general superintendent of the company, having in charge the laying out and designing of the work and the superintending of the larger and more difficult problems, so practically the burden of this technical work has fallen on him during these years. He has stepped into his father's place as president of the company. Mr. Blodgett, who for the past twenty years has been the business man of the concern, and treasurer of the company, will still have charge of these affairs as before. With the company retaining the personnel which has been a part of the equipment for many years, so far as the execution of contracts and the interests of the profession are concerned, but little, if any, change will be noted.

Editorial Comment and Selected Miscellany

THE PARKER BUILDING FIRE.

IN our last issue we made some brief comments on the burning of the Parker Building in New York. Even the most casual study of this structure is sufficient to convince one that it ought never to have been included among first-class buildings. The interior frame work is composed entirely of round cast-iron columns, the girders resting upon brackets and being bolted to cast flanges. A considerable section of the floor in each story, including two lines of columns, was entirely destroyed and fell in a mass to the basement. In many cases the cast-iron flanges supposed to hold the beams were broken entirely away. There was no girder covering used, the bottoms of the girders being flush with the bottom of the terra-cotta arches and the plastering was carried level across the flanges of the girders without even metal lathing to hold it in place. The girders being unprotected, many of them deflected by the heat. The pent house which occupied a large portion of the roof was constructed with light columns of steel angles only $2\frac{1}{2}\times2\frac{1}{2}\times\frac{1}{4}$ inches, unprotected. These failed at a very early stage in the fire, the whole house crashing to the main roof and thence breaking through, probably causing the initial failure of the interior lines of columns. Floor spans of six feet were constructed with semi-porous, side construction, hollow tile arches only eight inches deep. The fireproofing of the cast-

DETAIL BY A. E. WESTOVER, ARCHITECT.
Conkling-Armstrong Terra Cotta Co., Makers.

DETAIL BY F. S. BARNUM, ARCHITECT.
North Eastern Terra Cotta Co., Makers.

DETAIL BY CLINTON & RUSSELL, ARCHITECTS.
New Jersey Terra Cotta Co., Makers.

iron columns consisted of a casing of two-inch porous terra cotta with apparently no tie except that afforded by the cement in the setting.

It is a libel on fireproof construction to put this building in the same category with hundreds of buildings all over the country which are built well and thoroughly, the steel work properly protected and the columns cased in such way that the covering will not peel off and drop on slight provocation. So far from this building forming any example of the failure of terra cotta to properly do its work, it is really a most decisive proof that even when terra-cotta fireproofing is applied in an unworkmanlike manner, in insufficient quantity and of insufficient strength, it is yet able to afford a very large degree of protection. It would seem as if every precaution had been taken to make the construction poor rather than to make it good. The column casings were cut repeatedly by pipes for electricity, etc.; the partitions were only three inches thick where they ought to have been at least four inches and were all cut to pieces with windows and wooden sash; the filling over the arches appears to have been of nothing but cinders and the wood flooring was blocked up on sleepers in such a manner that when the woodwork burned away heavy machinery, safes, etc., dropped down onto the arches, which were utterly unable, and never intended, to stand any such shock. The Parker Building is simply another illustration of the reckless way in which a speculative building can be carried up with a bare compliance with the law and yet be classed as fireproof.

DOME OF POLICE HEADQUARTERS BUILDING, NEW YORK.
Hoppin, Koen & Huntingdon, Architects.
Terra Cotta by New York Architectural Terra Cotta Co.

BUILDING OPERATIONS FOR JANUARY.

INFLUENCED by national financial disturbance, the most sensitive of all industrial undertakings, building and construction, has suffered a severe depression, as shown by official reports received by the *American Contractor*, New York, and tabulated. As forecasted by the decline of stocks of every variety, the decrease in building operations as compared with January, 1907, was expected, and has materialized, to the extent of 44 per cent in the aggregate of 47 cities presented in the comparison. The indications for February are more favorable, — and a large volume of building may be expected as the season approaches, subject only to such restrictions as are presented each presidential year.

Among the cities which scored an increase despite the financial panic are: Bridgeport, with a gain of 22 per cent; Denver, 9; Kansas City, 16; Little Rock, 6; Omaha, 10; Paterson, 28; Reading, 32; Spokane, 10; Topeka, 91. Greater New York shows a decrease of $7,000,000, a loss of 50 per cent; Philadelphia, 61; Chicago, 21; St. Louis, 51.

DETAIL BY WALTER E. PARFITT, ARCHITECT.
Made by South Amboy Terra Cotta Co.

IN GENERAL.

The firm of Babb, Cook & Willard, architects, New York, has been dissolved by mutual consent. A new co-partnership has been formed under the name of Babb, Cook & Welch. The new firm will retain the same offices, 3 West 29th Street.

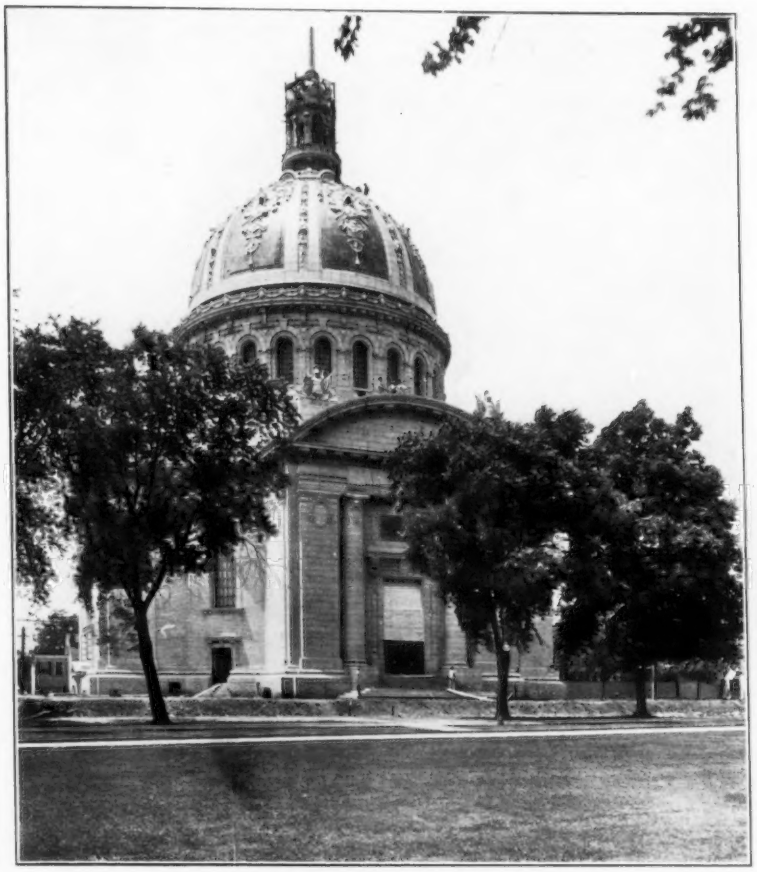
Murray A. White, formerly connected with the office of Holabird & Roche, Chicago, has formed a co-partnership with Burke & Horwood, architects, Toronto, Canada. The new firm name is Burke, Horwood & White.

At the Annual Meeting of the Washington Chapter of the American Institute of Architects, held on January 3, the following officers were elected for the year 1908: President, E. W. Donn, Jr.; Vice-President, W. J. Marsh; Treasurer, F. B. Pyle; Secretary, Percy Ash.

Harvard University offers to members of the Architectural League of America three scholarships in Architecture. These scholarships are divided into two classes: Class A.—One scholarship which is restricted to those who can pass the entrance examinations of Harvard College. Class B.—Two scholarships for special students for which there is no examination, but a competition in architectural design to select the holders. Candidates for the above should notify the Chairman of the Committee on University Scholarships, Emil Lorch, Ann Arbor, Mich., by April 1 of their intention to take part in the competition. The Architectural League of America also has a foreign or traveling scholarship, for information regarding which apply to Professor Percy Ash, Chairman, Committee on Traveling Scholarship, George Washington University, Washington, D. C.

The Eighth International Congress of Architects will be held in Vienna, May 18 to 24, 1908. His Majesty, the Emperor, has graciously consented to be Patron. The formal opening of the Congress will be in the Chamber of Ceremonies in the I. R. Palace. A very attractive programme for the entertainment of the delegates has been arranged. The following named constitute the permanent American Committee: William S. Eames, Chairman; George Oakley Totten, Jr., Secretary; Francis R. Allen, Glenn Brown, George B. Post. Further information may be obtained from Mr. Totten, whose address is 808 17th Street, Washington.

The scope of the work which the Philadelphia Chapter of the American Institute of Architects has planned to do is a manifestation of the new spirit which seems to have seized the architectural profession as a whole. The opportunities for doing a great deal of good in a community, which come to a body of this kind, seems to have been fully realized. The programme which has been laid out by the Philadelphia Chapter could be studied with profit by the other Chapters of the Institute. It is too long to permit of presentation here. No doubt the Secretary, Arnold H. Moses, 136 So. 4th St., Philadelphia, would be glad to furnish copies.



CHAPEL, U. S. NAVAL ACADEMY, ANNAPOLIS, MD.
Ernest Flagg, Architect.
Dome of polychrome terra cotta; ribs and ornamentation in cream glaze; background of dome golden yellow. Made by Atlantic Terra Cotta Co.

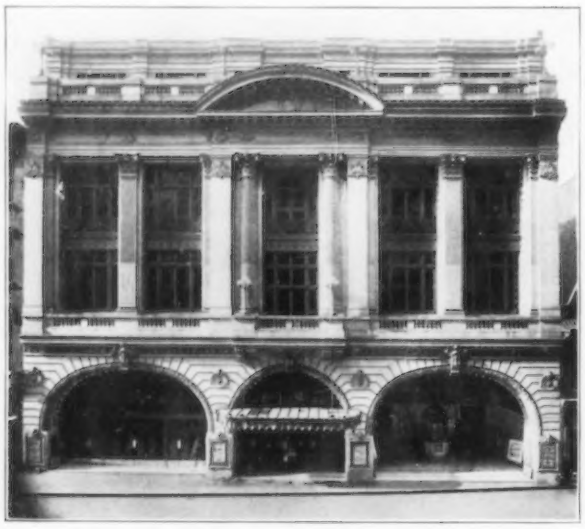
ACADEMIC BUILDING, U. S. NAVAL ACADEMY, ANNAPOLIS, MD.
Ernest Flagg, Architect.
Terra cotta used in connection with granite and made uniform with that material in color. Atlantic Terra Cotta Co., Manufacturers.

At the Convention of the National Brick Manufacturers' Association, held this month at Columbus, Ohio, the proposition to establish a School in Bricklaying at the Winona Technical Institute, Indianapolis, received very hearty support from the members. Some forty scholarships were subscribed for by the Association. This school will be opened to boys from any part of America. The Committee of the Association having these scholarships in charge are: Hon. Anthony Ittner, St. Louis; J. M. Blair, Cincinnati; and George T. Dickover, Wilkesbarre.

NEW BOOKS

MODERN BATHS AND BATH HOUSES. By Wm. Paul Gerhard, C. E. 8vo, xvi + 311 pages, 130 figures. Cloth, $3.00 net. New York: John Wiley & Sons.

Contents. — Preface. Historical Notes on Bathing. The Purposes of Bathing. The Different Forms of Baths. The Modern Rain Bath. House and Tenement Baths. Public Bath Houses. People's Baths. Factory Baths. School Baths. Baths for Military Barracks, Prisons and Jails. Hospital Baths. Baths for Clubhouses, Gymnasia, Hotels and Bar-



OPERA HOUSE, PITTSBURG.
McClure & Spahr, Architects.
Built of dull glaze cream white terra cotta. Made by Northwestern Terra Cotta Co.

ENTRANCE GATE TO ESTATE AT GRAND RAPIDS, MICH
William W. Clarke, Architect.
Roofed with combination shingle tile made by Ludowici-Celadon Co.

ber Shops. River and Sea Baths. Air and Sun Baths. Medical and Electric-Light Baths. The Water Supply and Plumbing of Bath Houses. Bibliography on Baths and Bathing. Appendix: Bathing in Various Countries. The Dog Bath Alphabetical Index.

SANITATION OF PUBLIC BUILDINGS. By William Paul Gerhard, C.E. 12mo, xi + 262 pages. Cloth, $1.50. New York: John Wiley & Sons.

This book is intended to discuss some features of sanitation in Public Buildings, with special reference to drainage, water supply, lighting and ventilation. The volume is, in some sense, a continuation of the author's work, "Sanitary Engineering of Buildings," which is devoted largely to the sanitary work of dwelling-houses, apartments and tenement-houses.

MODERN PIGMENTS AND THEIR VEHICLES. Their Properties and Uses considered, mainly from the Practical Side, and how to make Tints from Them. By Frederick Maire. New York: John Wiley & Sons.

It is not within the scope of this little book to go into the detective business nor to make a specialty of exposing the tricks of trade. Its purpose is to give a brief and concise history of all valuable pigments useful in painting—the main sources of their derivation and supply; their properties and chief uses; their good qualities and their defects are pointed out, and incidentally there are presented the best methods of detecting adulteration.

DETAIL BY ESENWEIN & JOHNSON, ARCHITECTS.
Brick Terra Cotta and Tile Co., Makers.

ACKNOWLEDGMENT.

THE illustrations of the two examples of brick bonding, made in connection with the article treating of Brickwork Details, were furnished by Fiske & Co., New York and Boston.

The photographs from which the illustrations of the Naval Academy Buildings were made, were loaned by the *Scientific American*, New York.

The illustrations of the Chelsea Public Baths were reproduced from the *Architectural Review*, London.

POSITION WANTED by architectural draughtsman with special college training and ten years' office experience in designing and detail work in both the East and the West. Would like position where there is opportunity for advancement. Can furnish the best of references. Address "Indiana," In care of "THE BRICKBUILDER."

THE OLIVER HOTEL, SOUTH BEND, IND.
Shepley, Rutan & Coolidge, Architects.
Built of 110 A light brick made by Hydraulic Press Brick Co.

BRANCH LIBRARY, GRAND RAPIDS, MICH.
Williamson & Crow, Architects.
Built of "Ironclay" Brick. F. H. McDonald, Agent.

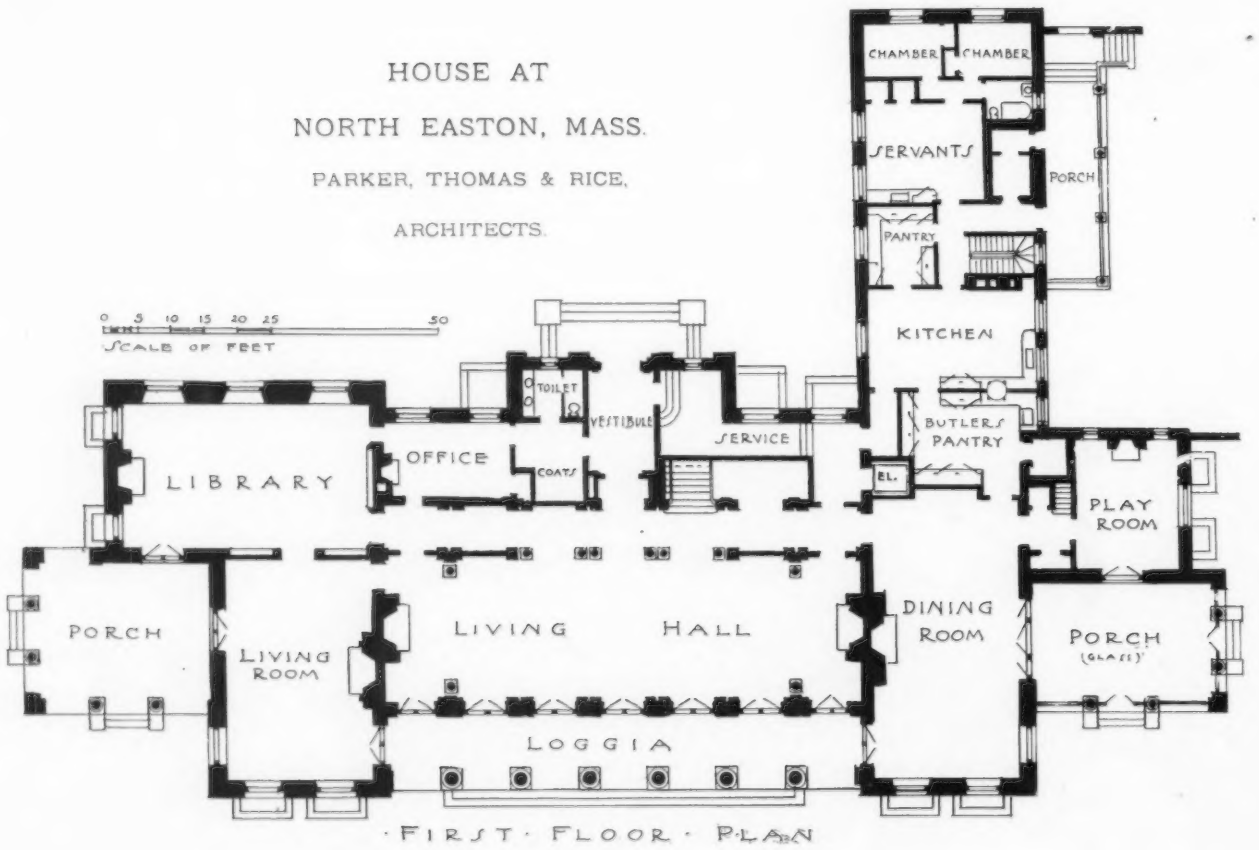
TOWARD THE ROAD.

HOUSE AT

NORTH EASTON, MASS.

PARKER, THOMAS & RICE,

ARCHITECTS.



FIRST FLOOR PLAN

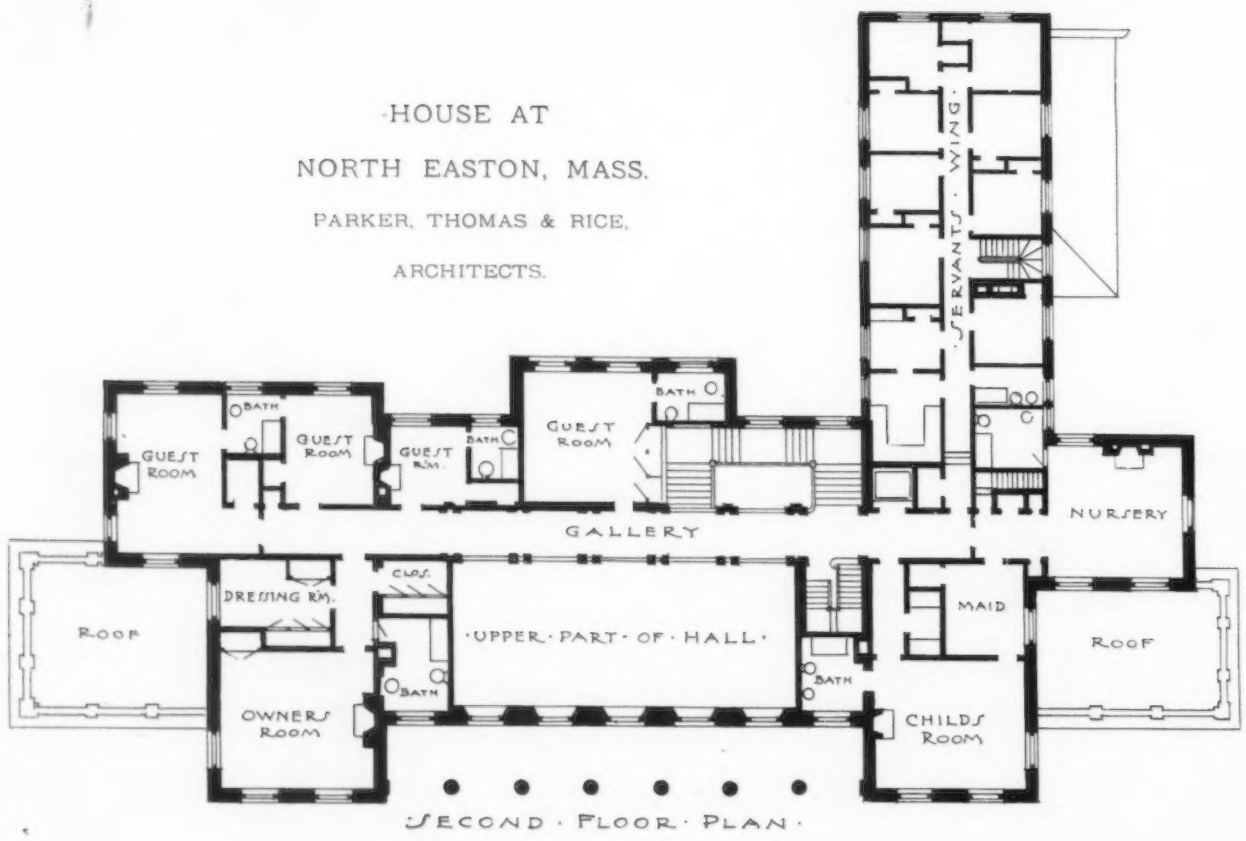
LOOKING ALONG THE LOGGIA.

HOUSE AT NORTH EASTON, MASS.

PARKER, THOMAS & RICE, ARCHITECTS.

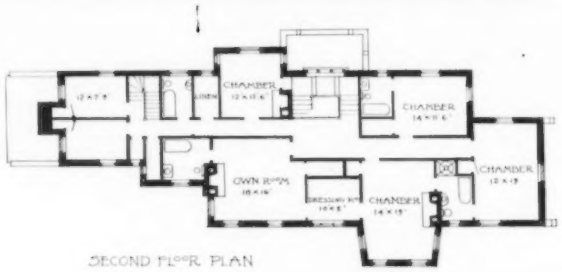
TOWARD THE GARDEN.

HOUSE AT
NORTH EASTON, MASS.
PARKER, THOMAS & RICE,
ARCHITECTS.



SECOND·FLOOR·PLAN·

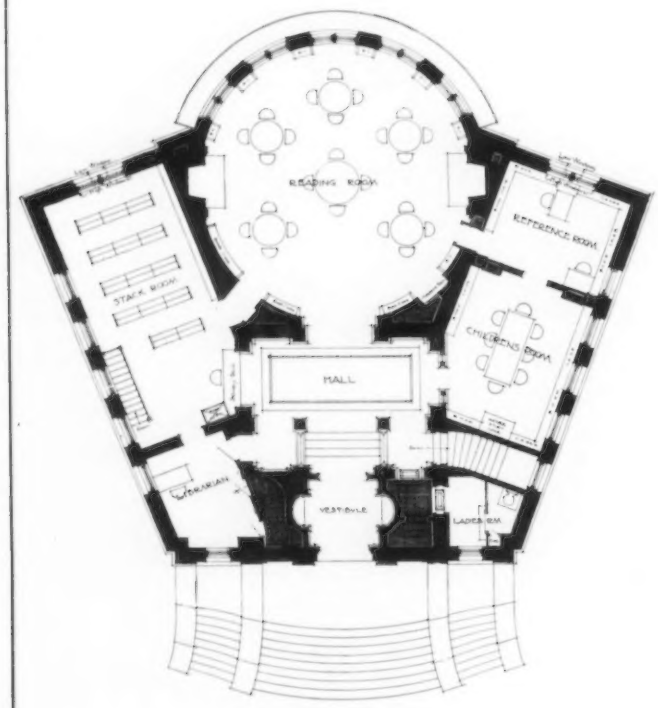
FIRST FLOOR PLAN



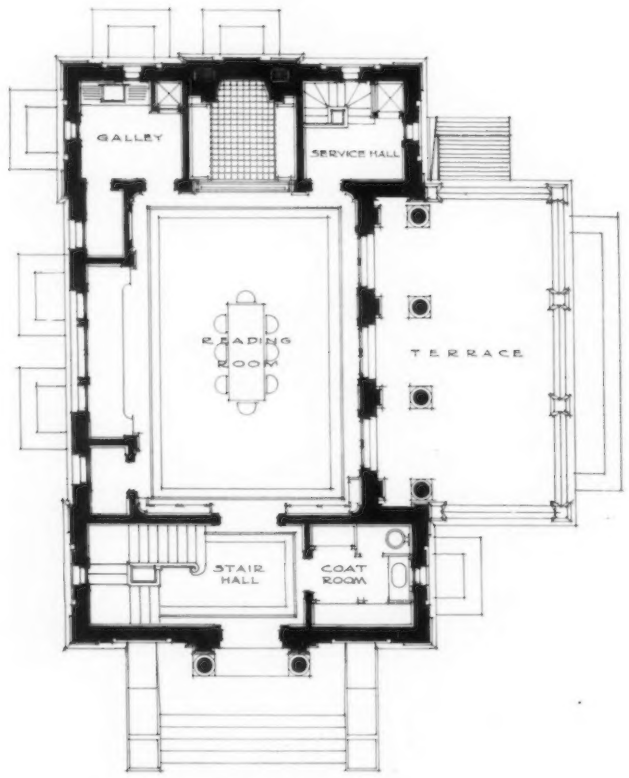
SECOND FLOOR PLAN

HOUSE FOR ROBERT HEYL, ESQ., WYNNEWOOD, PA.

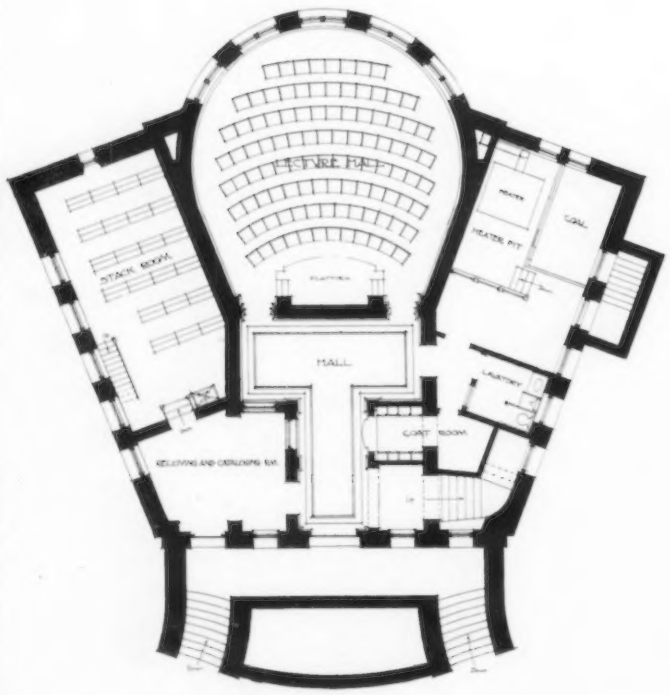
FRANK MILES DAY & BROTHER, ARCHITECTS.



FIRST FLOOR PLAN.

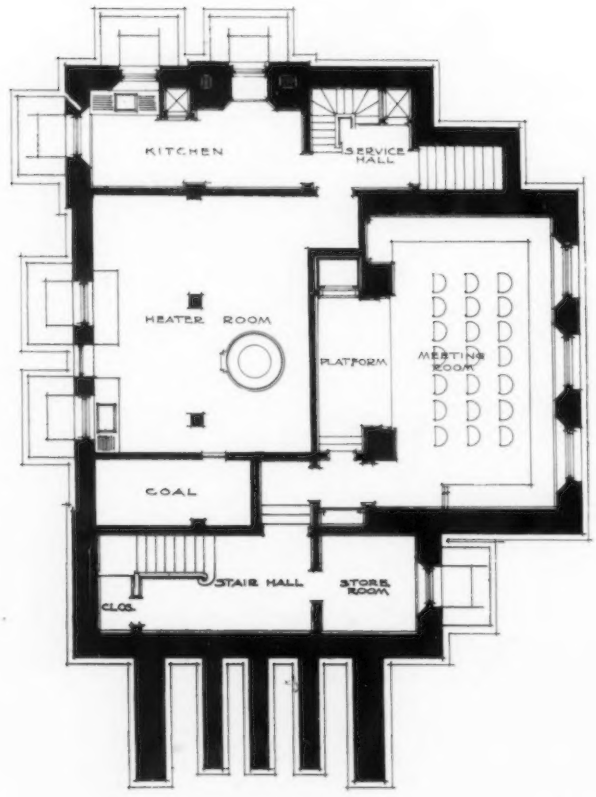


FIRST FLOOR PLAN.



BASEMENT PLAN.

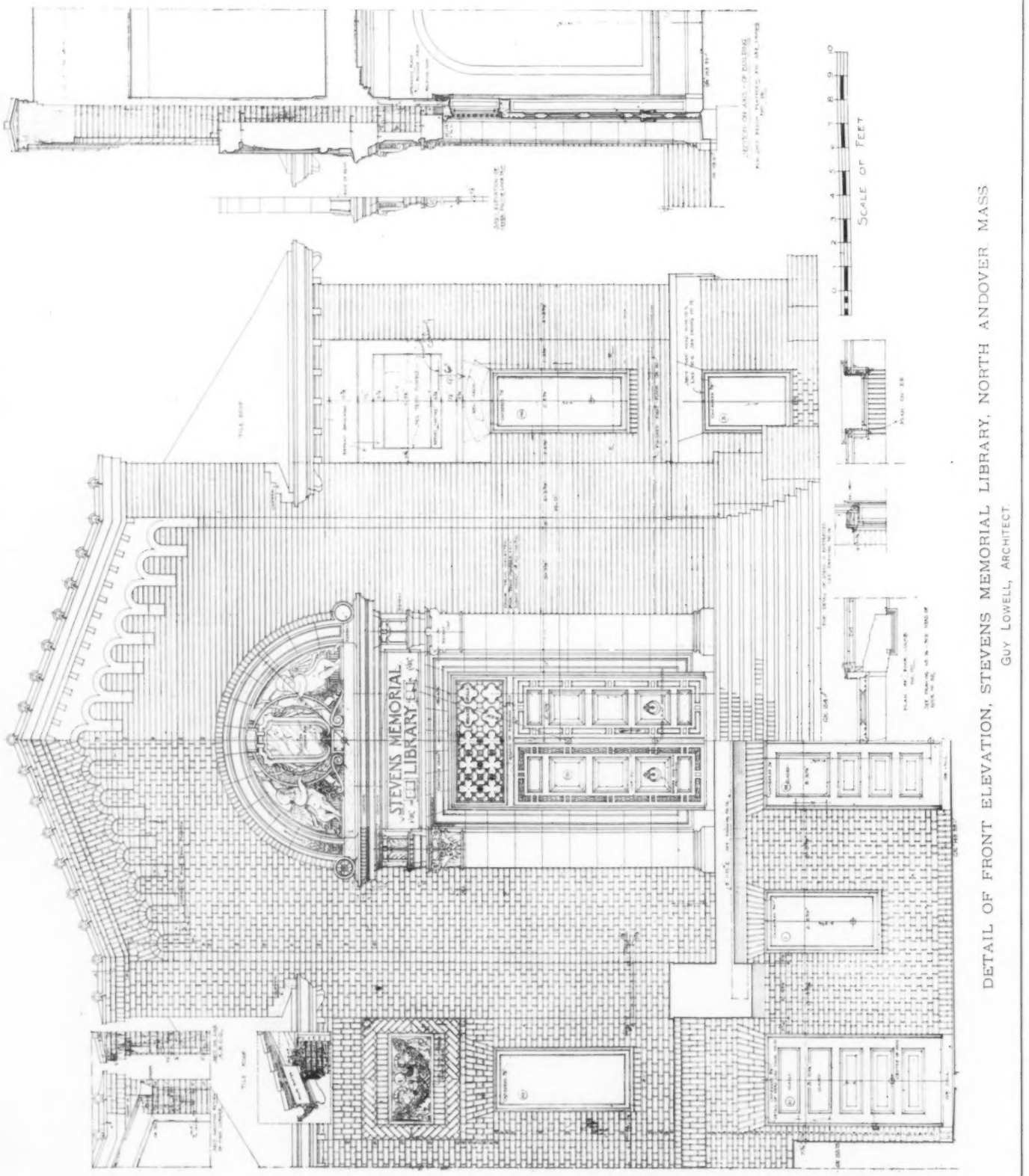
PLANS, STEVENS MEMORIAL LIBRARY,
NORTH ANDOVER, MASS.



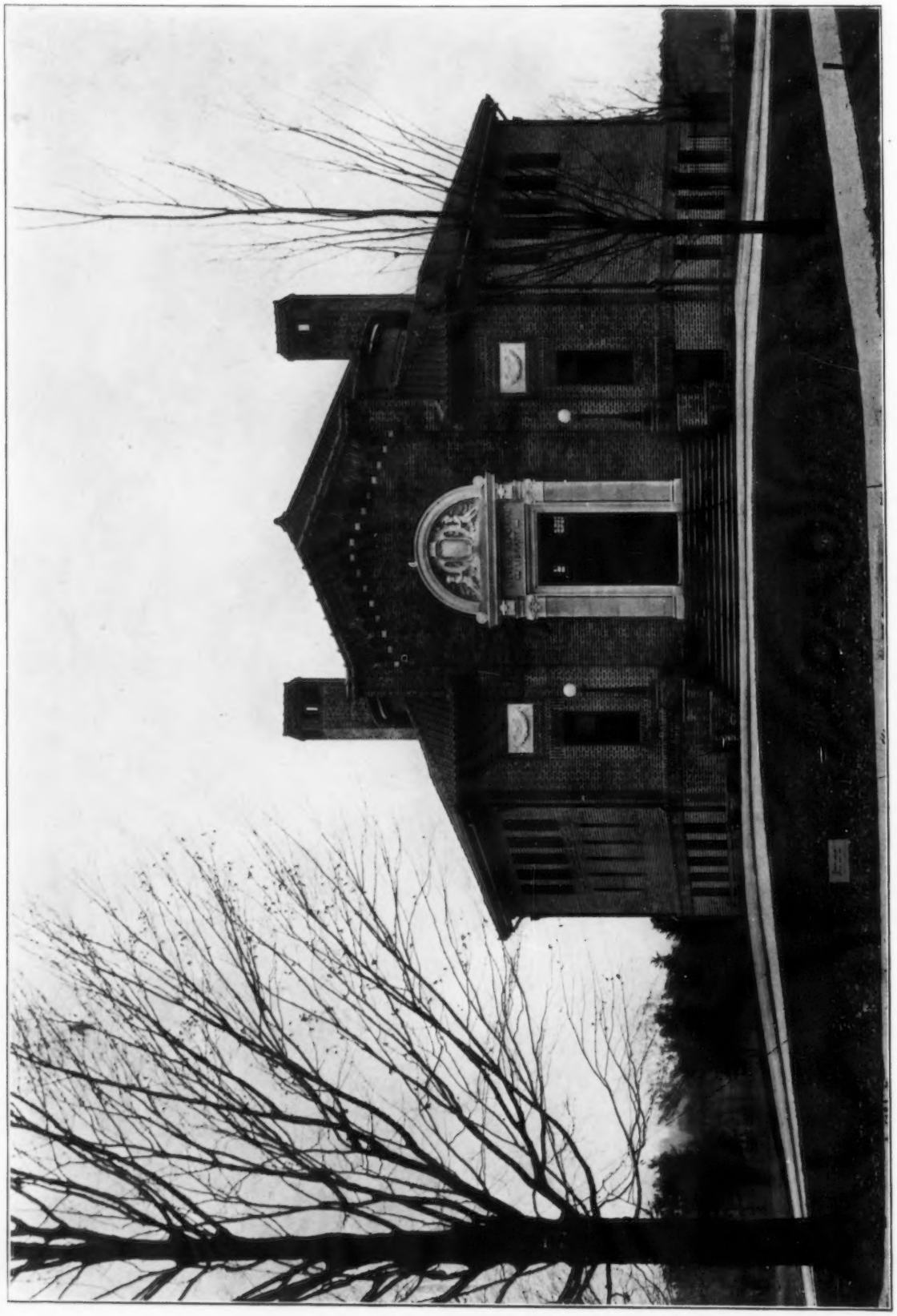
BASEMENT PLAN.

PLANS, CLUB HOUSE,
ANDOVER, MASS.

GUY LOWELL, ARCHITECT.



DETAIL OF FRONT ELEVATION, STEVENS MEMORIAL LIBRARY, NORTH ANDOVER, MASS.
GUY LOWELL, ARCHITECT.



STEVENS MEMORIAL LIBRARY, NORTH ANDOVER, MASS.
GUY LOWELL, ARCHITECT.

DETAIL OF MAIN FACADE
STEVENS MEMORIAL LIBRARY, NORTH ANDOVER, MASS.
GUY LOWELL, ARCHITECT.

DETAIL OF LIVING-ROOM GABLE FROM GARDEN.

DETAIL OF COURT BALCONY FROM GARDEN.

HOUSE AT LOCUST VALLEY, LONG ISLAND, N. Y.

GROSVENOR ATTERBURY, ARCHITECT.

GENERAL VIEW OF HOUSE FROM SOUTHWEST.

GENERAL VIEW OF COURT AND GARDEN FROM SOUTH END OF GARDEN.

HOUSE AT LOCUST VALLEY, LONG ISLAND, N. Y.

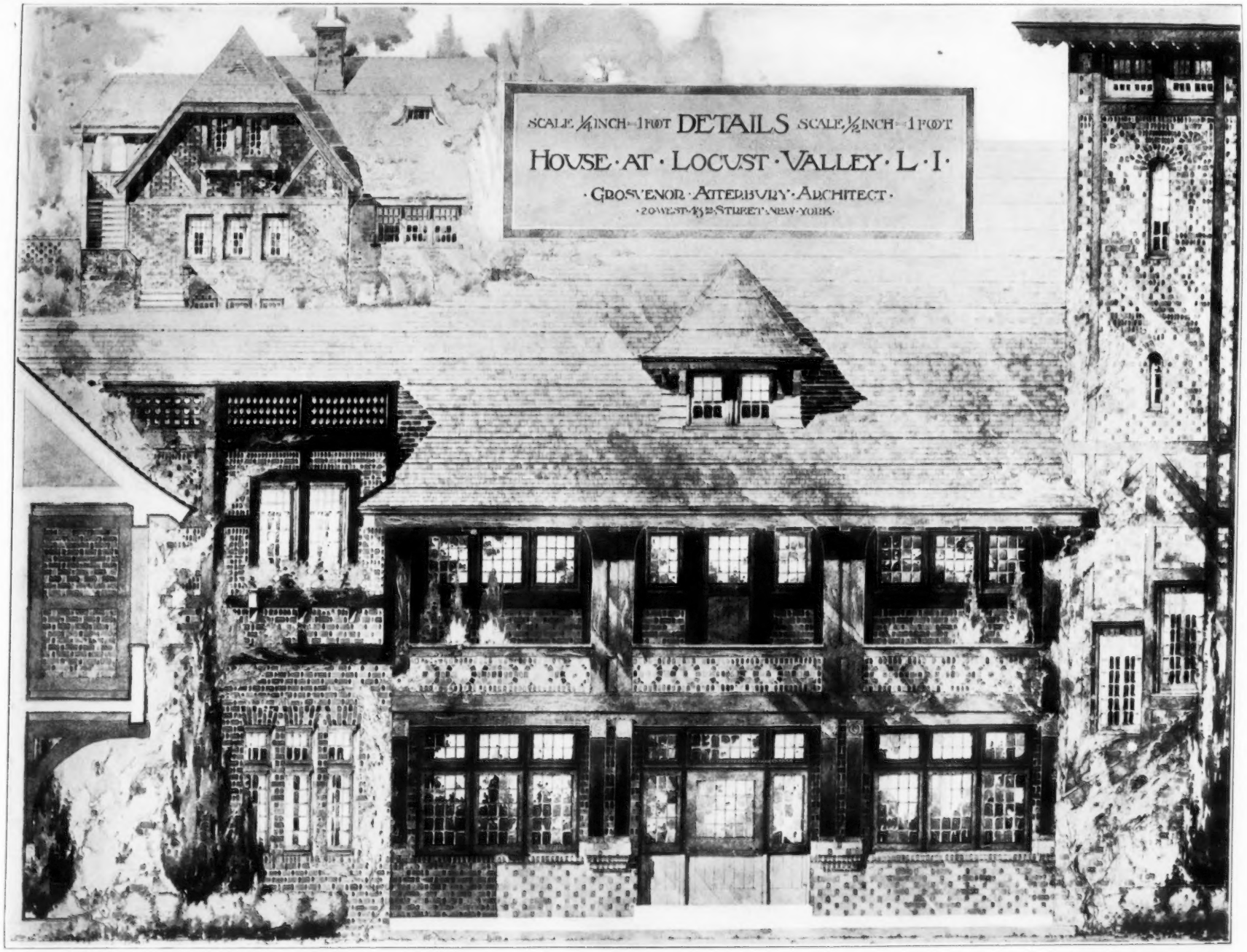
GROSVENOR ATTERBURY, ARCHITECT.

DETAIL OF LIVING-ROOM GABLE AND PORCH FROM SOUTHWEST.

DETAIL OF NORTHEAST WING SHOWING MAIN ROAD.

HOUSE AT LOCUST VALLEY, LONG ISLAND, N. Y.

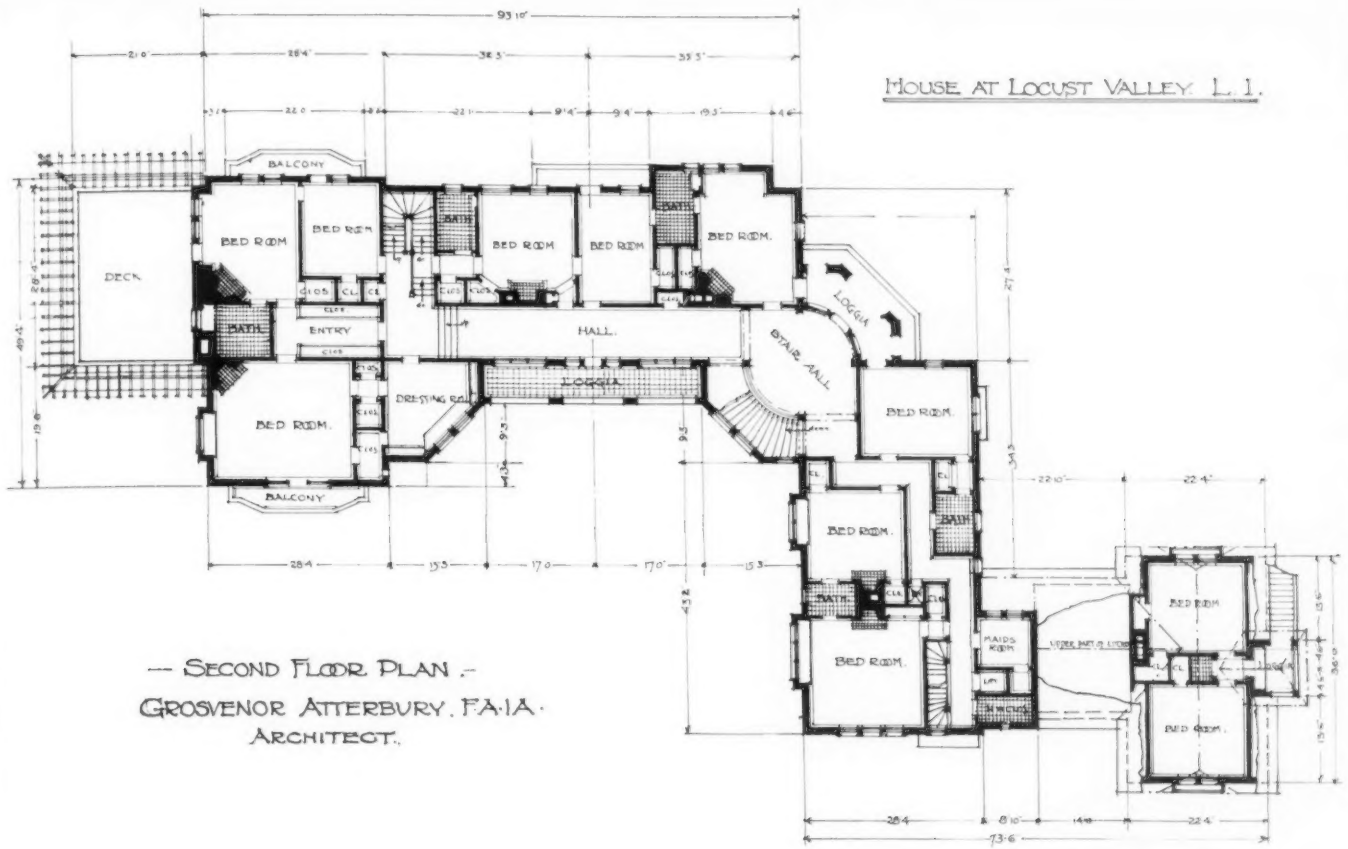
GROSVENOR ATTERBURY, ARCHITECT.


SCALE ¼ INCH = 1 FOOT DETAILS SCALE ½ INCH = 1 FOOT
HOUSE · AT · LOCUST · VALLEY · L · I ·
· GROSVENOR · ATTERBURY · ARCHITECT ·
· 20 WEST 43rd STREET · NEW · YORK ·

DETAILS, HOUSE AT LOCUST VALLEY, LONG ISLAND, N. Y.

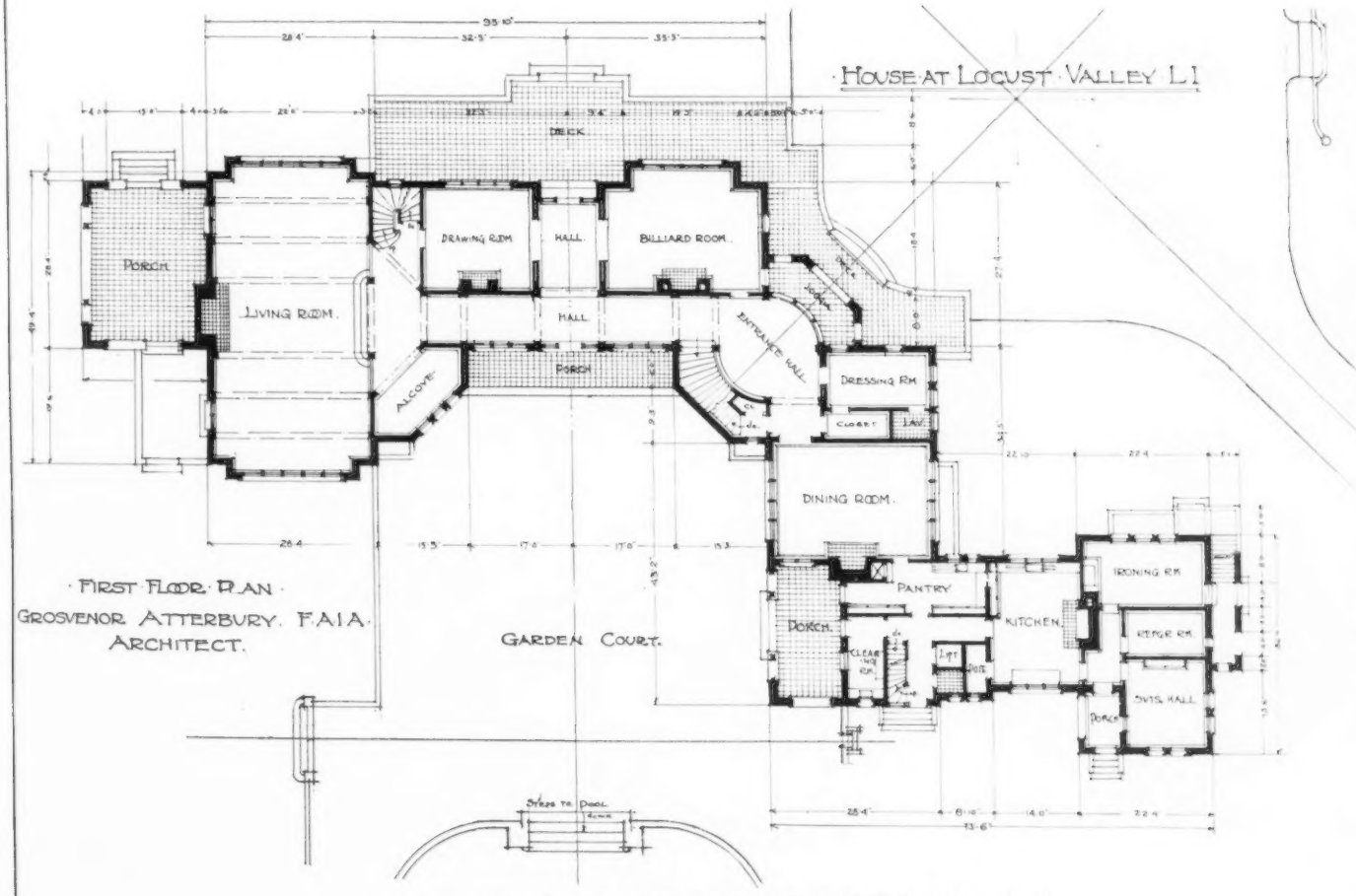
GROSVENOR ATTERBURY, ARCHITECT.

HOUSE AT LOCUST VALLEY. L. I.



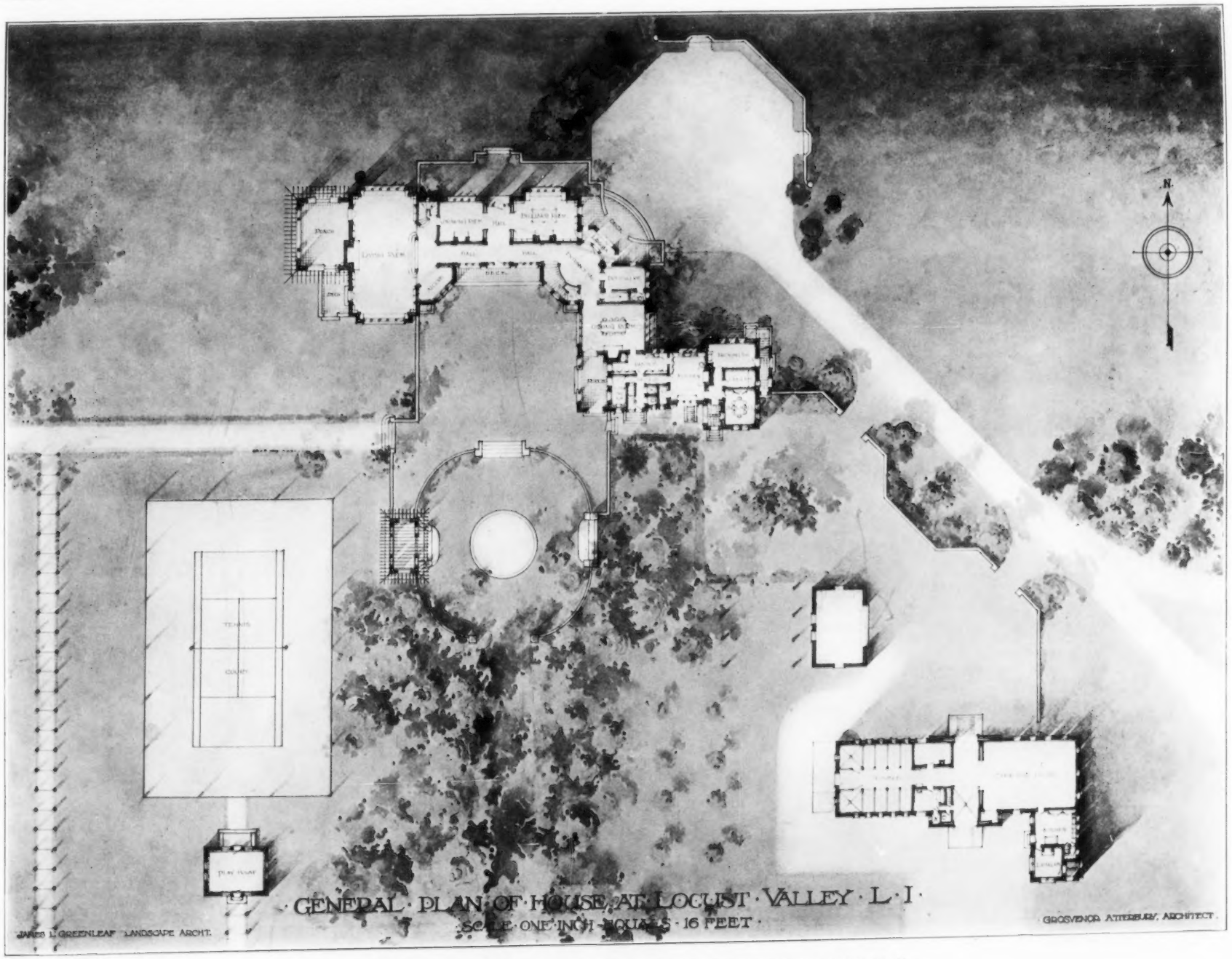
— SECOND FLOOR PLAN —
GROSVENOR ATTERBURY. F.A.I.A.
ARCHITECT.

HOUSE AT LOCUST VALLEY L.I.



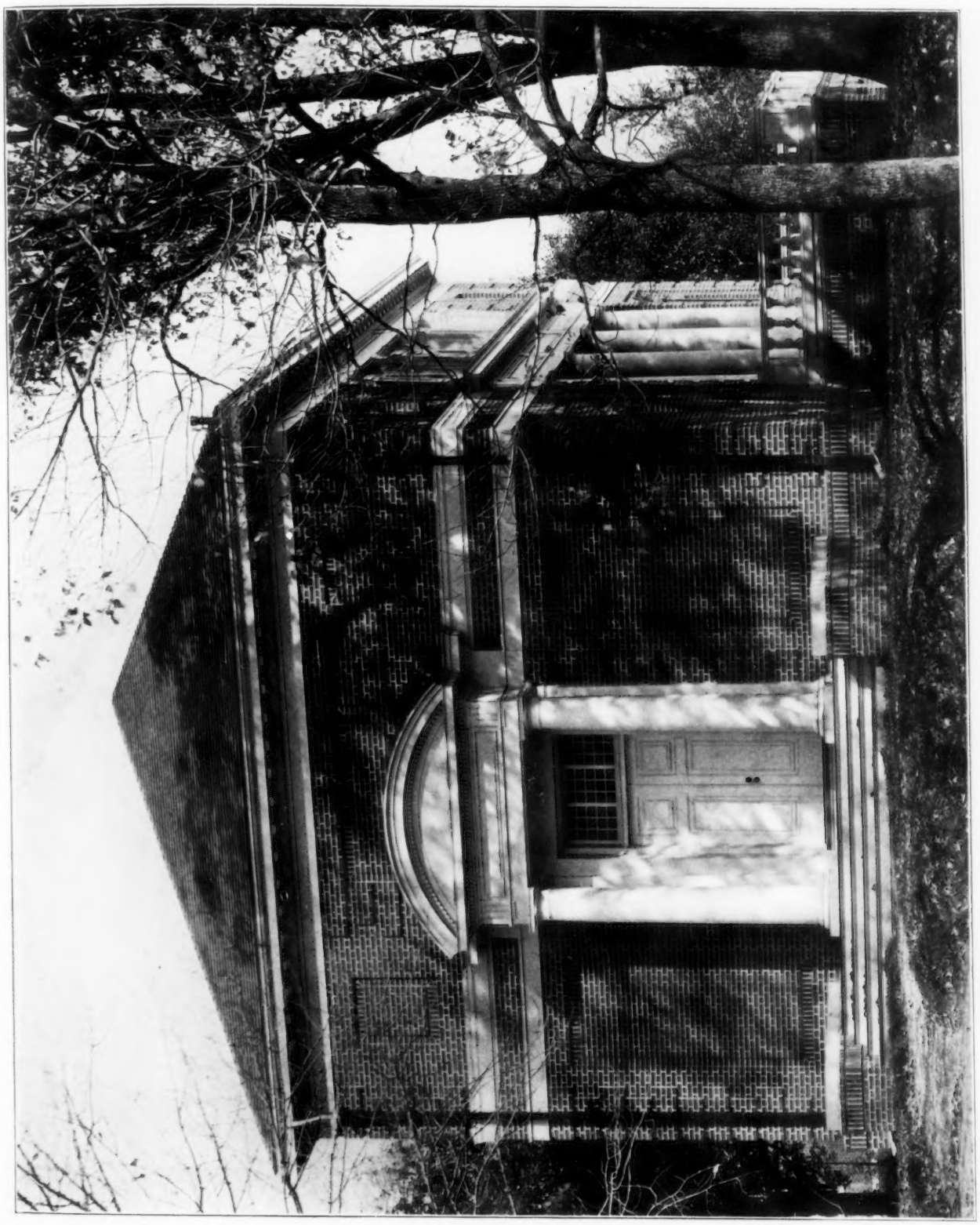
FIRST FLOOR PLAN
GROSVENOR ATTERBURY. F.A.I.A.
ARCHITECT.

PLANS, HOUSE AT LOCUST VALLEY LONG ISLAND, N. Y.
GROSVENOR ATTERBURY, ARCHITECT.


N.
TENNIS
COURT
PLAY HOUSE
GENERAL · PLAN · OF · HOUSE · AT · LOCUST · VALLEY · L · I ·
SCALE · ONE · INCH · EQUALS · 16 · FEET ·
JAMES L. GREENLEAF LANDSCAPE ARCHT.
GROSVENOR ATTERBURY, ARCHITECT.

GENERAL PLAN OF HOUSE AT LOCUST VALLEY, LONG ISLAND, N. Y.

GROSVENOR ATTERBURY, ARCHITECT. JAMES L. GREENLEAF, LANDSCAPE ARCHITECT.

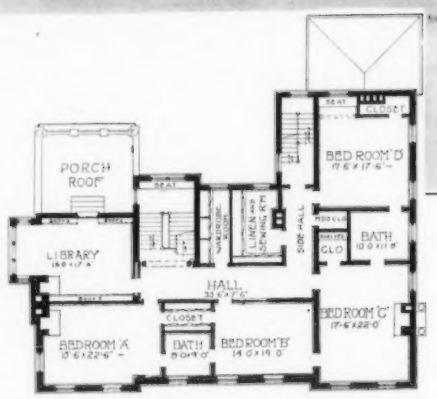


CLUB HOUSE, ANDOVER, MASS
GUY LOWELL ARCHITECT.

CLUB HOUSE, ANDOVER, MASS.
GUY LOWELL, ARCHITECT.

HOUSE AT WOODMERE LONG ISLAND, N. Y.

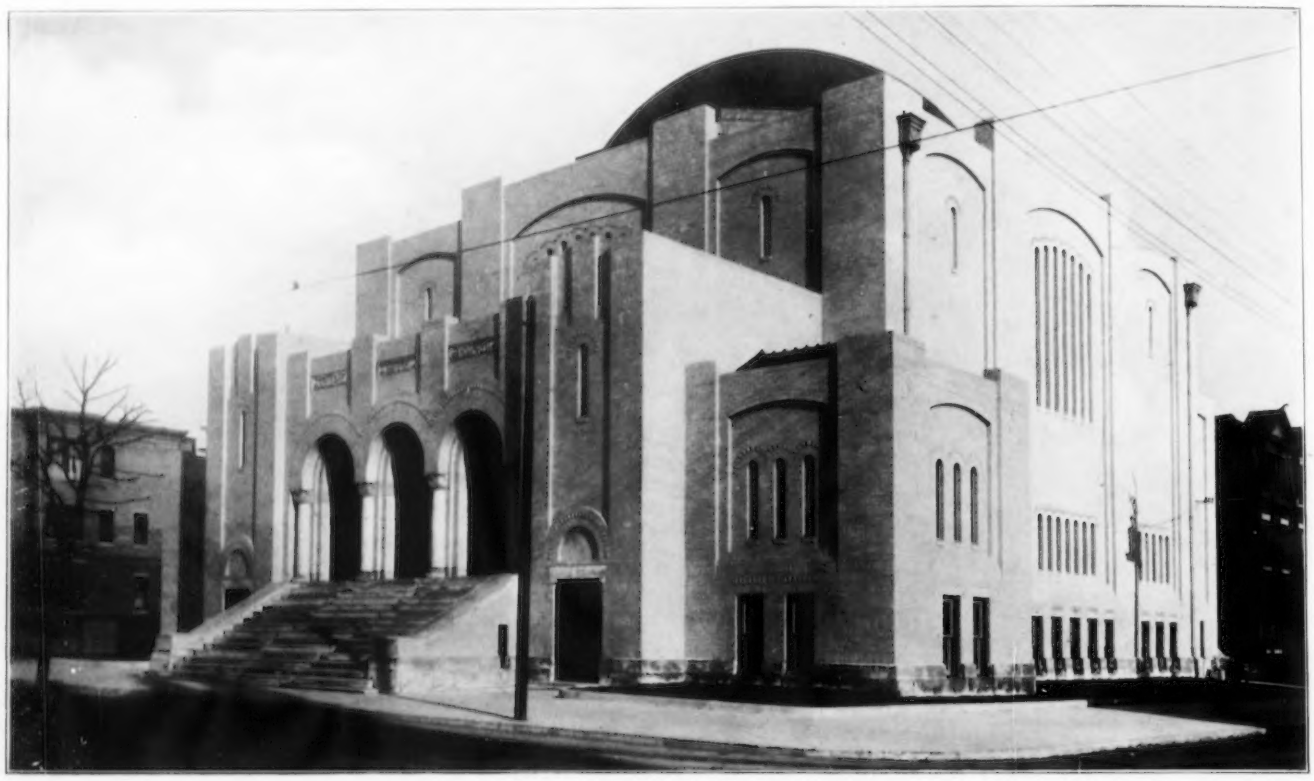
WILLIAM ADAMS. ARCHITECT.



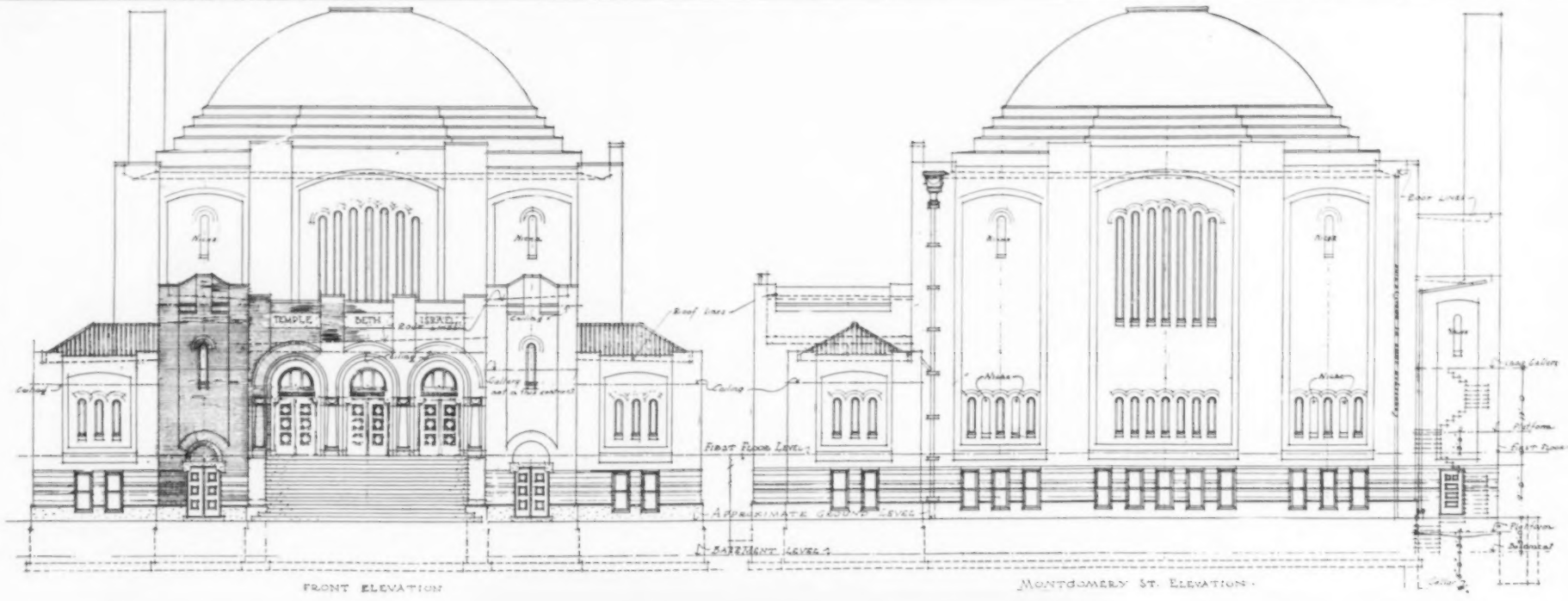
HOUSE, 2301 S STREET, WASHINGTON, D. C.

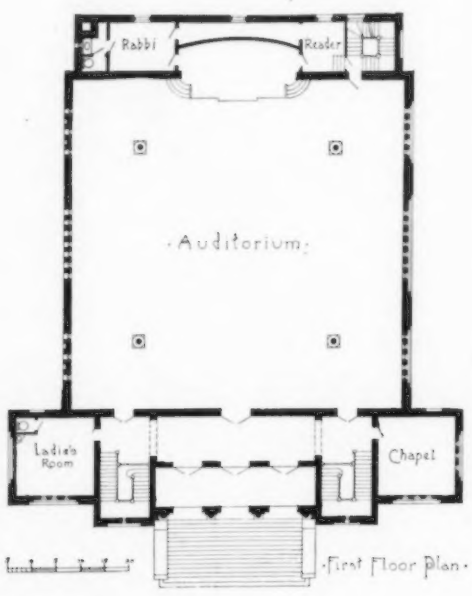
FROST & GRANGER, ARCHITECTS.

HOUSE, 2301 S STREET, WASHINGTON, D. C.
FROST & GRANGER, ARCHITECTS.

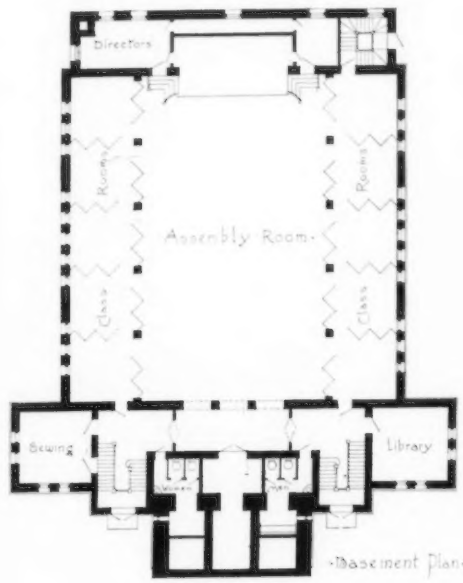


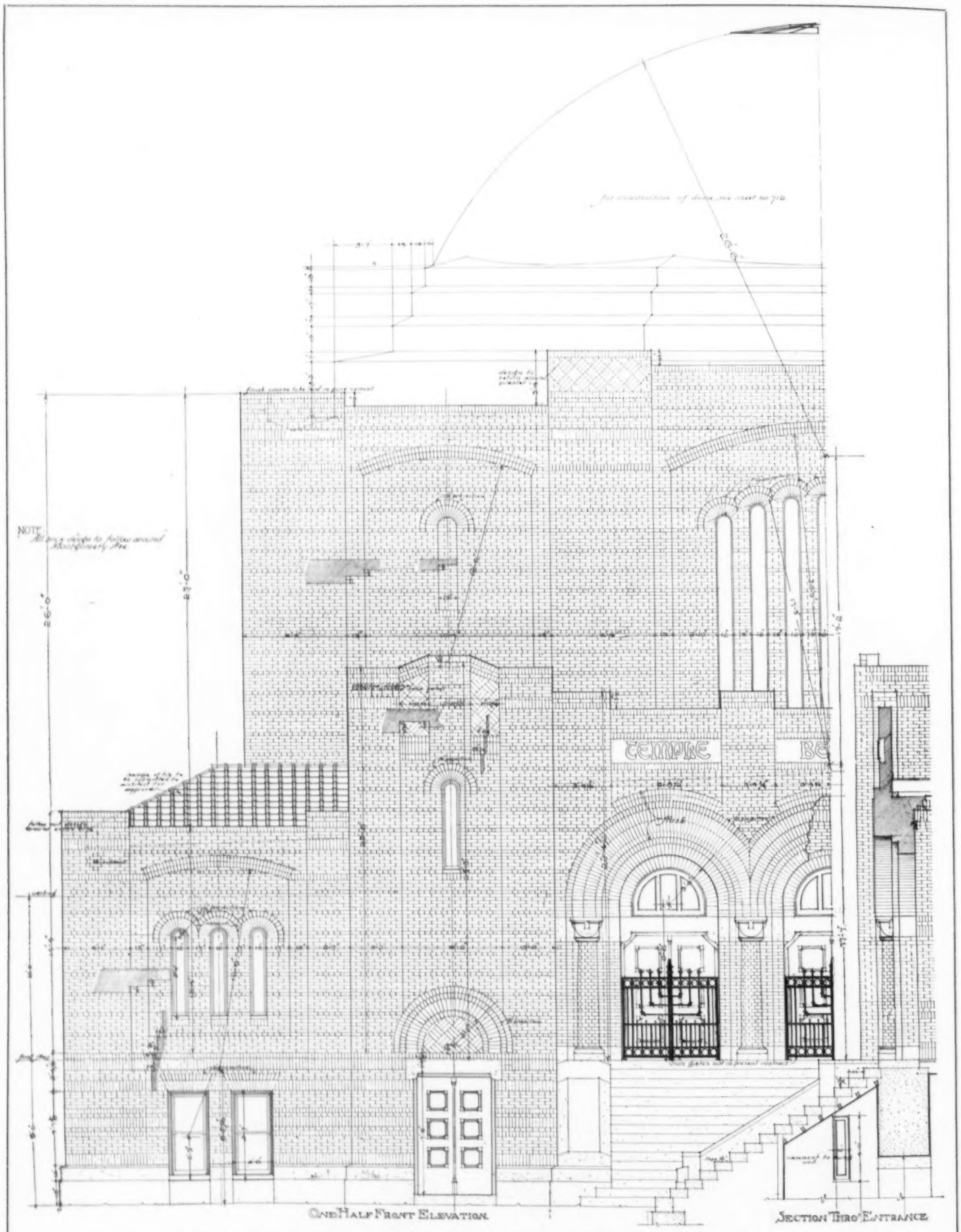
BETH ISRAEL, SYNAGOGUE, PHILADELPHIA.
ANDREW J. SAUER, ARCHITECT.





BETH ISRAEL, SYNAGOGUE, PHILADELPHIA.
ANDREW J. SAUER, ARCHITECT.

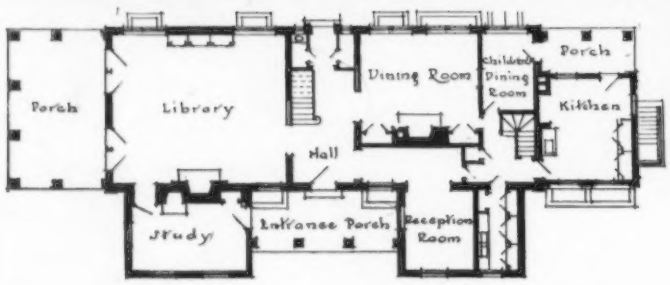


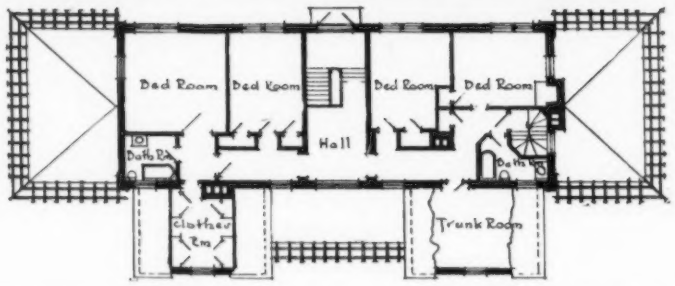


ONE HALF FRONT ELEVATION. SECTION THRO' ENTRANCE.

DETAIL OF FRONT ELEVATION, BETH ISRAEL SYNAGOGUE, PHILADELPHIA.

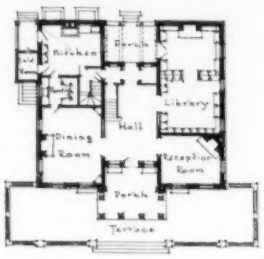
ANDREW J. SAUER, ARCHITECT.





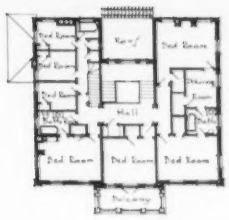
HOUSE AT WILMINGTON, DEL.

CHARLES BARTON KEEN, ARCHITECT.



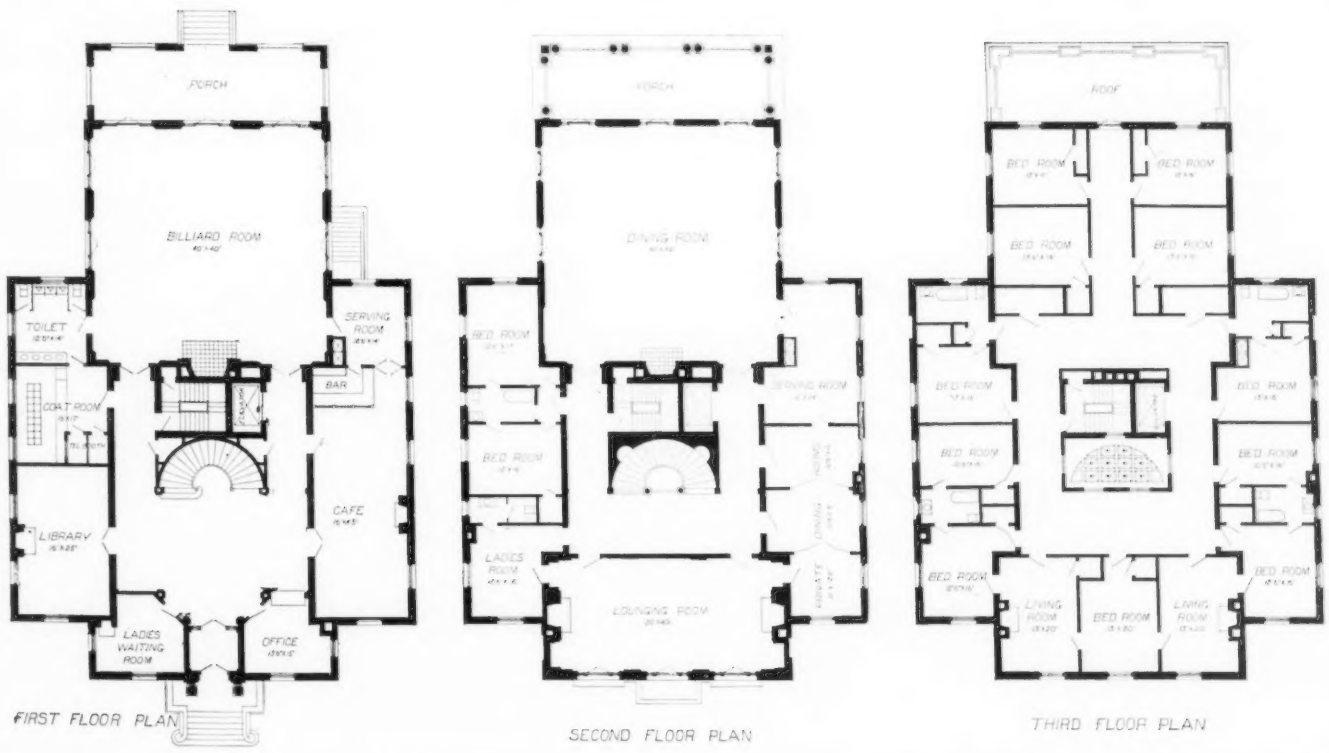
HOUSE AT WILMINGTON, DEL.

CHARLES BARTON KEEN,
ARCHITECT.



UNIVERSITY CLUB, PITTSBURG, PA.

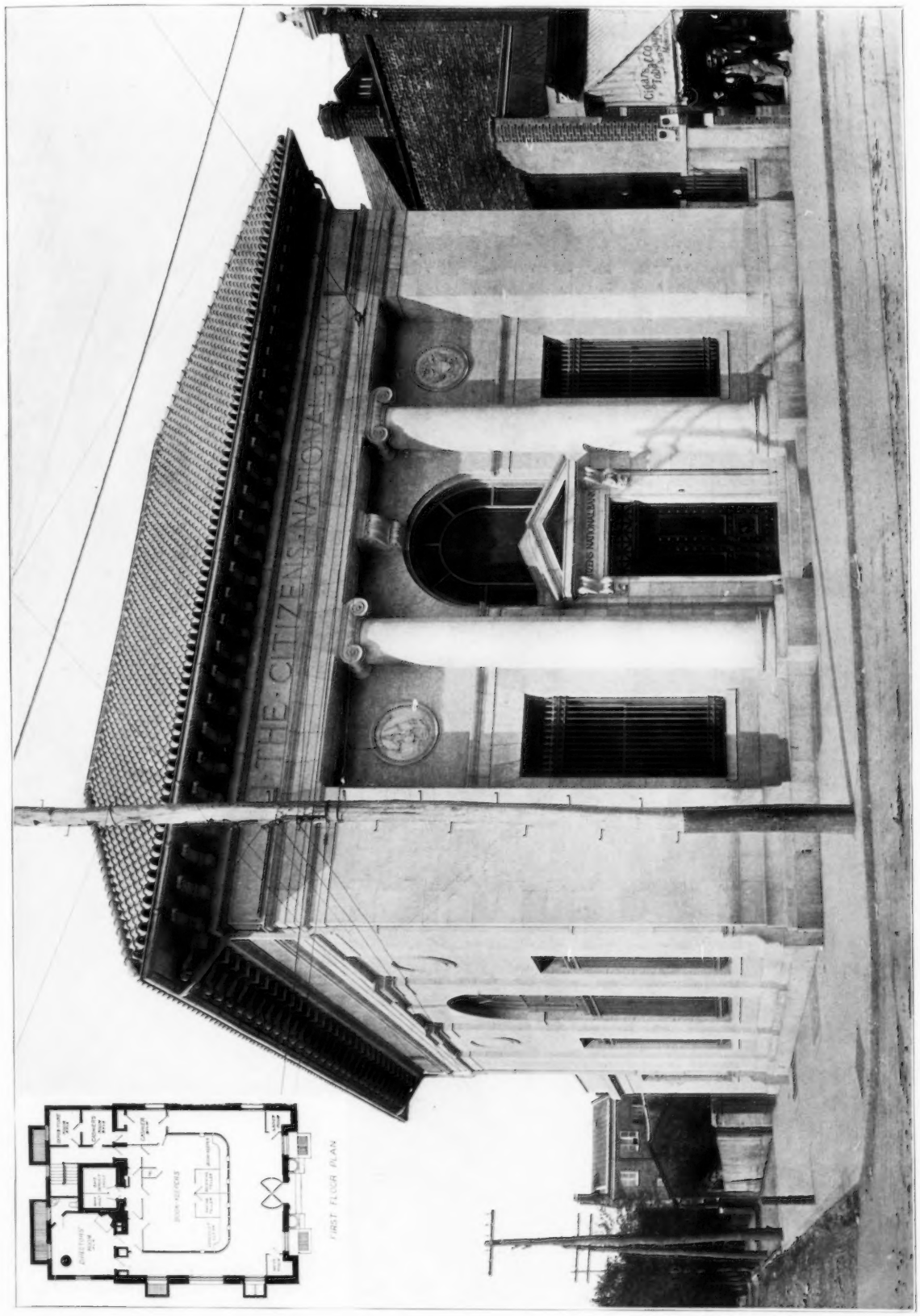
MACCLURE & SPAHR, ARCHITECTS.



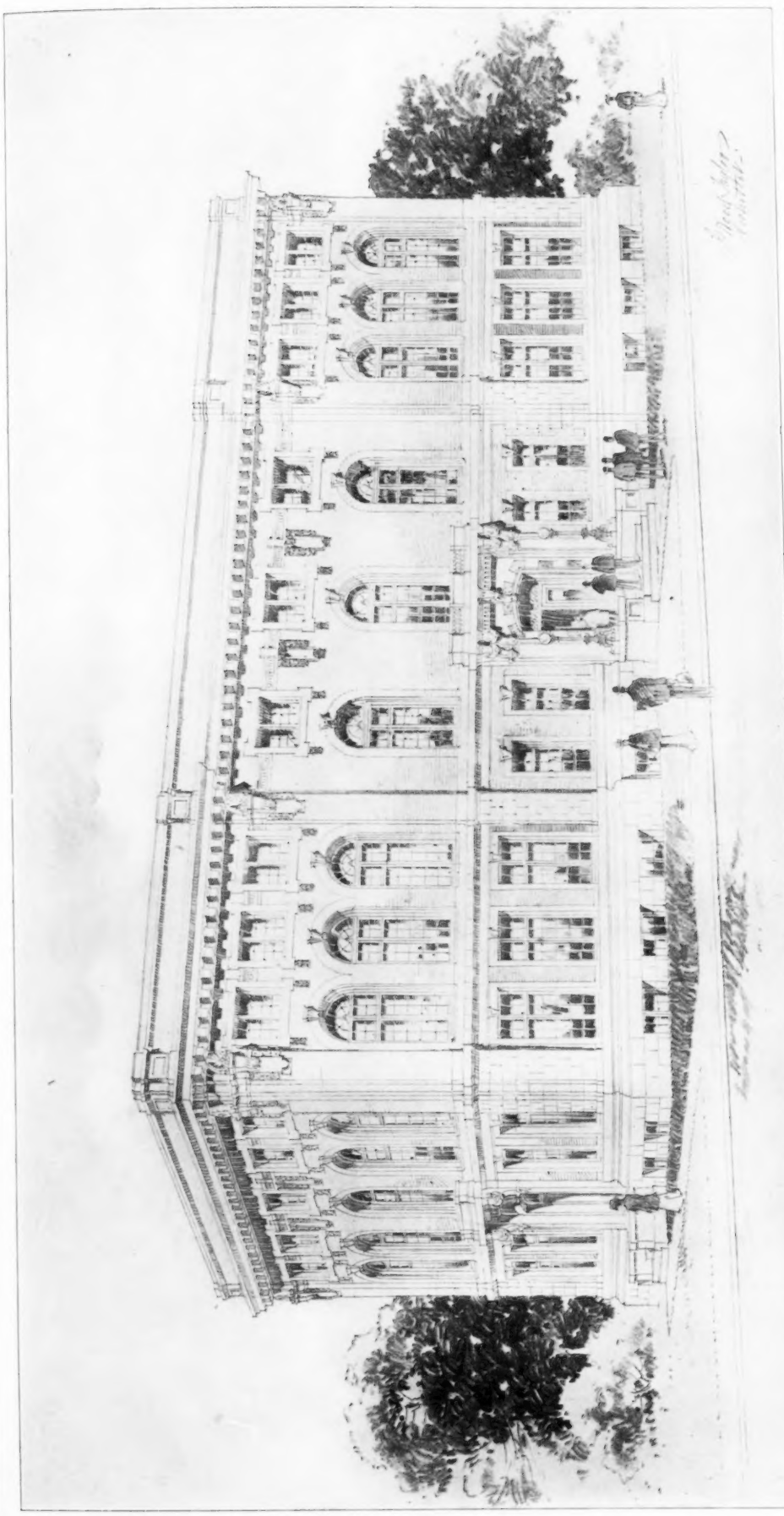
FIRST FLOOR PLAN

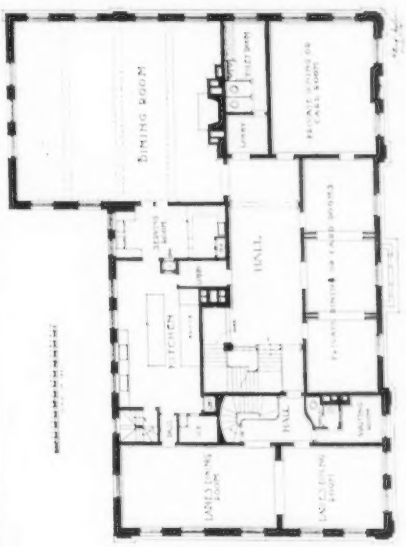
SECOND FLOOR PLAN

THIRD FLOOR PLAN

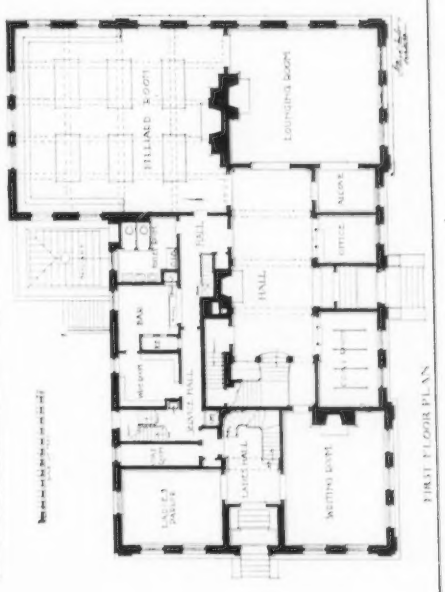


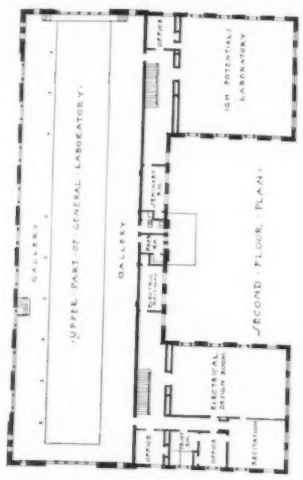
CITIZENS' NATIONAL BANK, ALEXANDRIA, VA.
JOSEPH EVANS SPERRY, ARCHITECT.

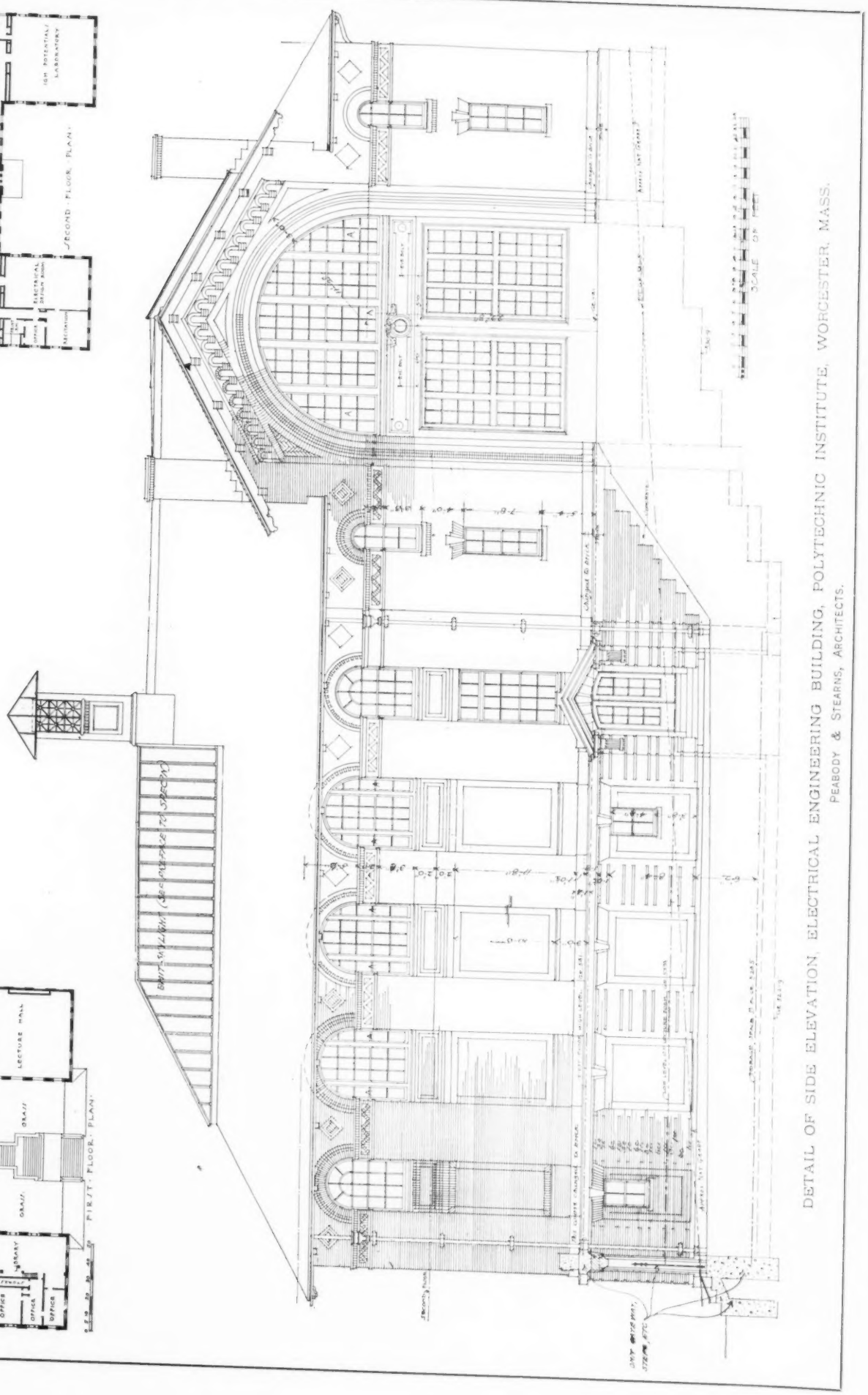


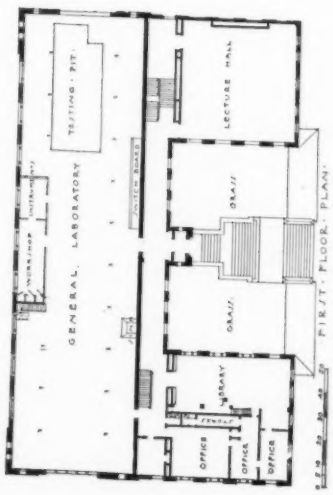


ACCEPTED DESIGN
FOR THE
"NAYASSET CLUB
SPRINGFIELD, MASS.
G. Wood Taylor,
ARCHITECT.

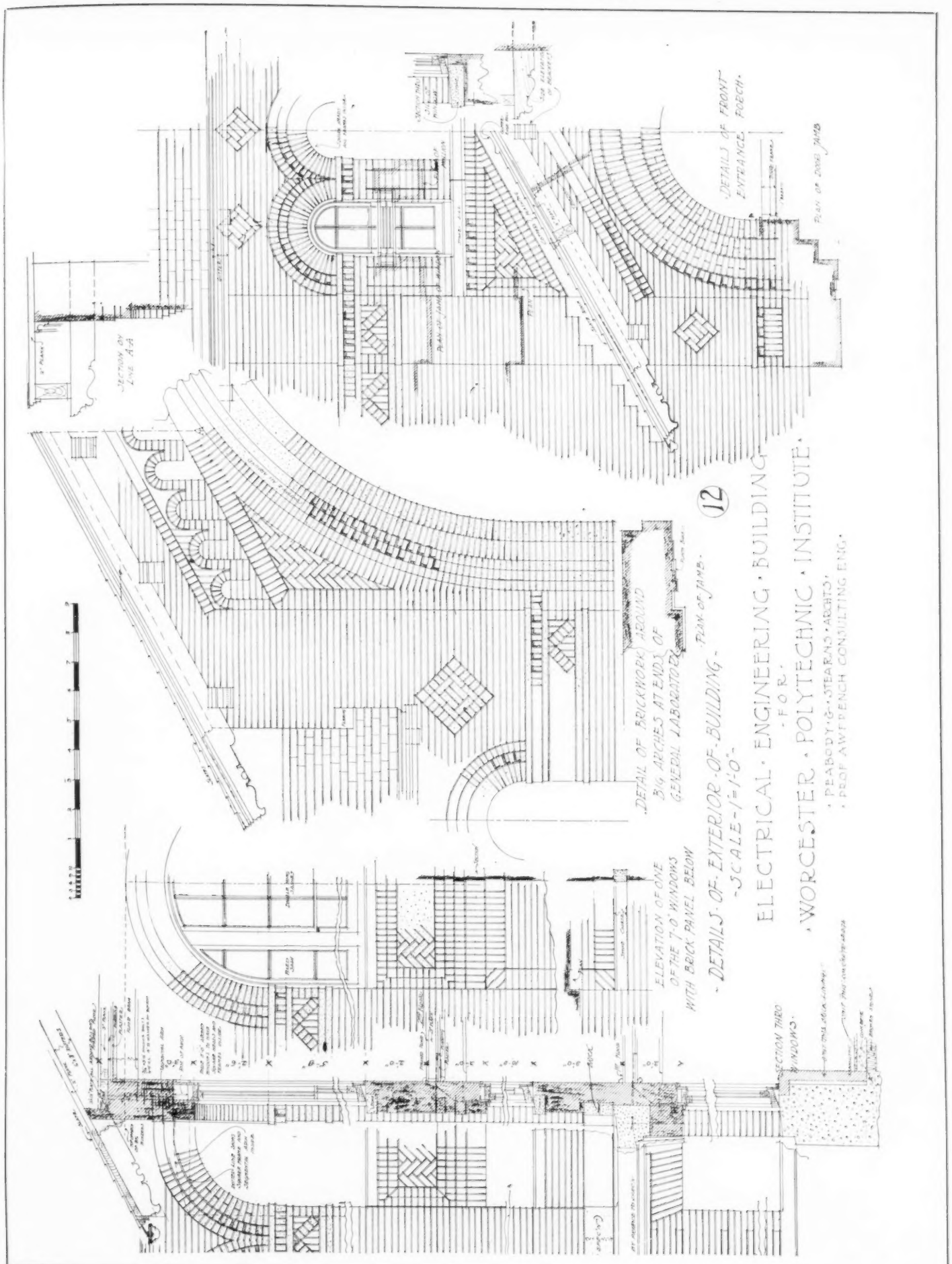


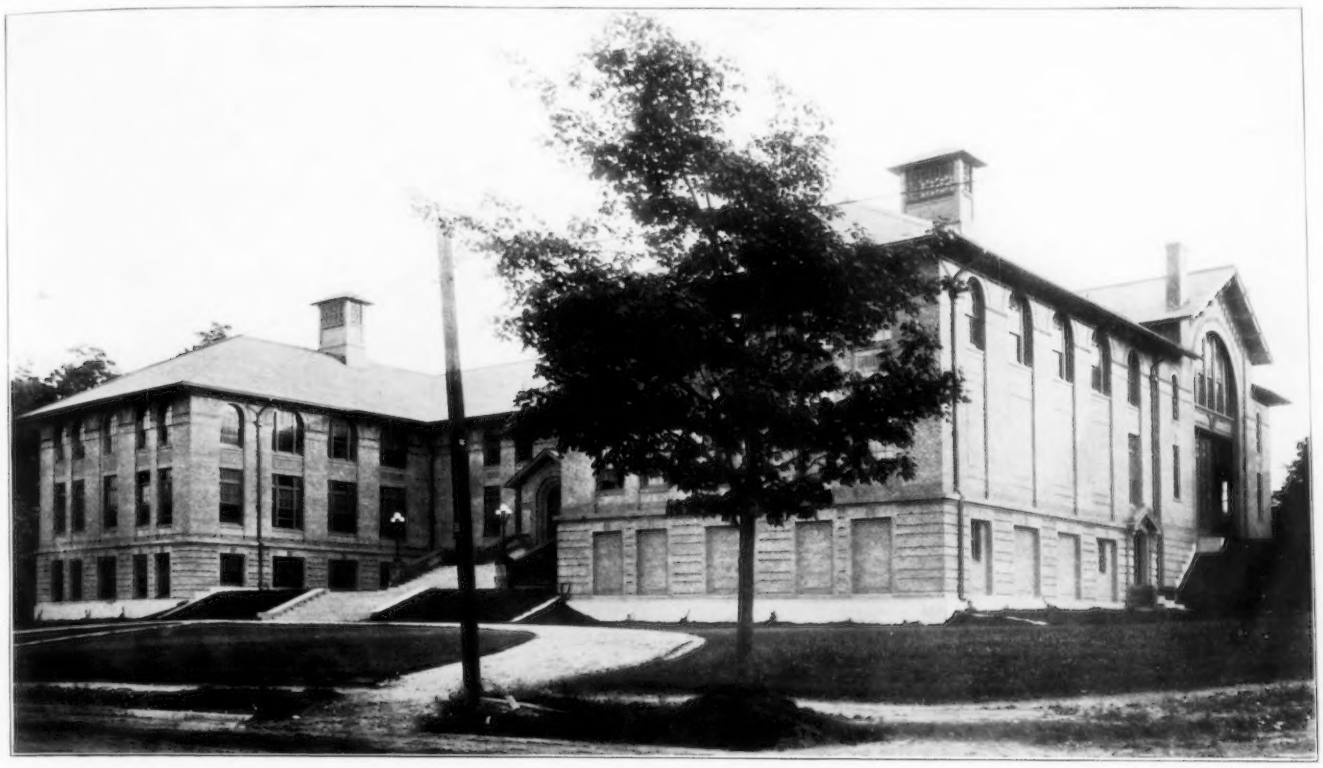






DETAIL OF SIDE ELEVATION, ELECTRICAL ENGINEERING BUILDING, POLYTECHNIC INSTITUTE, WORCESTER, MASS.
PEABODY & STEARNS, ARCHITECTS.


ELECTRICAL · ENGINEERING · BUILDING ·
· FOR ·
· WORCESTER · POLYTECHNIC · INSTITUTE ·
· PEABODY & STEARNS · ARCHTS ·
· PROF AWTRENCH CONSULTING ENG ·
· DETAILS OF EXTERIOR OF BUILDING ·
· SCALE-1/8=1'-0" ·
ELEVATION OF ONE OF THE 7'-0" WINDOWS WITH BRICK PANEL BELOW
DETAIL OF BRICKWORK AROUND BIG ARCHES AT ENDS OF GENERAL LABORATORY
PLAN OF JAMB.
SECTION THRO WINDOWS.
DETAIL OF FRONT ENTRANCE PORCH.
PLAN OF JAMB
SECTION ON LINE A-A
12



ELECTRICAL ENGINEERING BUILDING, POLYTECHNIC INSTITUTE WORCESTER, MASS.
PEABODY & STEARNS, ARCHITECTS.